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STATE OF CONNECTICUT REGULATION OF

DEPARTMENT OF PUBLIC HEALTH
Name of Agency

Concerning

PUBLIC DRINKING WATER QUALITY STANDARDS
Subject Matter of Regulations

Section 1. Section 19-13-B102(a) of the Regulations of Connecticut State Agencies is amended to read as follows:

(a) **Definitions.** As used in this section:

- (1) "Action level" means the concentration of lead or copper in water specified in subsection (j)(6)(B) of this section which determines, in some cases, the treatment requirements contained in subsection (j)(6) of this section that a system is required to complete;
- (2) "Active source of supply" means all springs, streams, watercourses, brooks, rivers, lakes, ponds, wells, or underground water from which water is taken on a regular or periodic basis for water supply purposes. A number of wells drawing water from a single aquifer or more than 1 surface water body or a combination of surface water and ground water sources connected to a common distribution system may be considered a single source of supply;
- (3) "Annual average" means the arithmetic average of the quarterly averages of 4 consecutive quarters of monitoring;
- (4) "Bag filters" means pressure-driven separation devices that remove particulate matter larger than 1 micrometer using an engineered porous filtration media and are typically constructed of a non-rigid, fabric filtration media housed in a pressure vessel in which the direction of flow is from the inside of the bag to the outside;
- (5) "Bank filtration" means a water treatment process that uses a well to recover surface water that has naturally infiltrated into ground water through a river bed or bank(s). Infiltration is typically enhanced by the hydraulic gradient imposed by a nearby pumping water supply or other well(s);
- (6) "Cartridge filters" means pressure-driven separation devices that remove particulate matter

larger than 1 micrometer using an engineered porous filtration media and are typically constructed as rigid or semi-rigid, self-supporting filter elements housed in pressure vessels in which flow is from the outside of the cartridge to the inside;

- (7) "CFR" means Code of Federal Regulations;
- (8) "Certified distribution system operator" means an operator who has met the education, experience, and examination requirements specified in section 25-32-11 of the Regulations of Connecticut State Agencies and has been certified by the department;
- (9) "Certified operator" means an operator who has met the education, experience, and examination requirements specified in sections 25-32-7a to 25-32-14, inclusive, of the Regulations of Connecticut State Agencies and has been certified by the department;
- (10) "Certified water treatment plant operator" means an operator who has met the education, experience, and examination requirements of section 25-32-9 of the Regulations of Connecticut State Agencies and has been certified by the department;
- (11) "Clean compliance history" means a record of no maximum contaminant level violations under subsection (e)(6) of this section, no monitoring violations under subsections (e)(7), (e)(12) or (x) of this section, and no coliform treatment technique trigger exceedances or treatment technique violations under subsection (x) of this section;
- [(11)] (12) "Coagulation" means a process using coagulant chemicals and mixing by which colloidal and suspended materials are destabilized and agglomerated into flocs;
- [(12)] (13) "Coliform" means a group of bacteria found in the intestines of warm-blooded animals (including humans) and found in plants, soil, air, and water;
- [(13)] (14) "Combined distribution system" means the interconnected distribution system consisting of the distribution systems of wholesale systems and of the consecutive public water systems that receive finished water;
- [(14)] (15) "Community water system" or "CWS" means a public water system that regularly serves at least 25 year-round residents;
- [(15)] (16) "Compliance period" means a 3 calendar-year period within a compliance cycle. Each compliance cycle has 3 3-year compliance periods;
- [(16)] (17) "Compliance cycle" means the 9 calendar-year cycle during which public water systems shall monitor. Each compliance cycle consists of 3 3-year compliance periods. The first calendar year cycle began on January 1, 1993 and ended on December 31, 2001; the second began on January 1, 2002 and ended on December 31, 2010; the third began on January 1, 2011 and ends on December 31, 2019;
- [(17)] (18) "Comprehensive performance evaluation" or "CPE" means a thorough review and analysis of a treatment plant's performance-based capabilities and associated administrative, operation and maintenance practices. It is conducted to identify factors that may be adversely impacting a plant's capability to achieve compliance and emphasizes approaches that can be implemented without significant capital improvements. The comprehensive performance

evaluation shall comprise of a written report consisting of at least the following components:

- (A) Assessment of plant performance;
- (B) Evaluation of major unit processes;
- (C) Identification and prioritization of performance limiting factors;
- (D) Assessment of the applicability of comprehensive technical assistance;
- (E) Identification of improvements selected by a public water system to enhance the treatment plant's capability to achieve compliance; and
- (F) A schedule of dates for the implementation of the improvements;

[(18)] (19) "Comprehensive technical assistance" means a performance improvement phase that is implemented using results from the comprehensive performance evaluation;

[(19)] (20) "Confluent growth" means a continuous bacterial growth covering the entire filtration area of a membrane filter, or a portion thereof, in which bacterial colonies are not discrete;

[(20)] (21) "Consecutive public water system" or "consecutive system" means a public water system that receives some or all of its finished water from 1 or more wholesale systems. Delivery may be through a direct connection or through the distribution system of 1 or more consecutive public water systems;

[(21)] (22) "Consultation" means a telephone call, electronic mail exchange or meeting at which the public water system reports to the department the nature of the violation and the department, in turn, determines the action that shall be taken by the public water system;

[(22)] (23) "Consumer" has the same meaning as provided in section 25-32a of the Connecticut General Statutes;

[(23)] (24) "Contaminant" means any physical, chemical, biological, or radiological substance or matter in water;

[(24)] (25) "Conventional filtration treatment" means a series of processes including coagulation, flocculation, sedimentation or dissolved air flotation, and filtration resulting in substantial particulate removal;

[(25)] (26) "Corrosion inhibitor" means a substance capable of reducing the corrosivity of water toward metal plumbing materials, especially lead and copper, by forming a protective film on the interior surface of those materials;

[(26)] (27) "Cryptosporidium" means a protozoan found in the intestines of livestock and in water contaminated by sewage or runoff containing animal waste;

[(27)] (28) "CT" or "CTcalc" means the product of the "residual disinfectant concentration" (C) in milligrams per liter determined before or at the first consumer, and the corresponding "disinfectant contact time" (T) in minutes (i.e., "C" X "T"). If a public water system applies

disinfectants at more than 1 point prior to the first consumer, it shall determine the CT of each disinfectant sequence before or at the first consumer to determine the total percent inactivation;

[(28)] (29) "CT_{99.9}" means the CT value required for 99.9 percent (3 log) inactivation of *Giardia lamblia* cysts;

[(29)] (30) "Department" means the Department of Public Health;

[(30)] (31) "Diatomaceous earth filtration" means a process resulting in substantial particulate removal in which a pre-coat cake of diatomaceous earth filter media is deposited on a support membrane (septum), and while the water is filtered by passing through the cake on the septum, additional filter media known as body feed is continuously added to the feed water to maintain the permeability of the filter cake;

[(31)] (32) "Direct filtration" means a series of processes including coagulation and filtration, but excluding sedimentation, resulting in substantial particulate removal;

[(32)] (33) "Direct integrity test" means a physical test applied to a membrane filtration unit in order to identify and isolate integrity breaches (i.e., 1 or more leaks that could result in contamination of the filtrate);

[(33)] (34) "Disinfectant contact time" ("T" in CT_{calc}) means the time in minutes that it takes for water to move from the point of disinfectant application or the previous point of disinfectant residual measurement to a point before or at the point where residual disinfectant concentration ("C") is measured;

(A) Where only 1 "C" is measured (single application point), "T" is the time in minutes that it takes for water to move from the point of disinfectant application to a point before or at which residual disinfectant concentration ("C") is measured;

(B) Where more than 1 "C" is measured (multiple application points), "T" is:

- (i) For the first measurement of "C", the time in minutes that it takes for water to move from the first point of disinfectant application to a point before or at the point where the first "C" is measured; and
- (ii) For subsequent measurements of "C", the time in minutes that it takes for water to move from the previous "C" measurement point to the "C" measurement point for which the subsequent "T" is being calculated;

(C) Disinfectant contact time in pipelines shall be calculated based on plug flow by dividing the internal volume of the pipe by the maximum hourly flow rate through that pipe; and

(D) Disinfectant contact time within mixing basins, clearwells, and storage reservoirs shall be determined by tracer studies or an equivalent demonstration;

[(34)] (35) "Disinfection" means a process which inactivates microbial pathogens in water by chemical oxidants or equivalent agents;

- [(35)] (36) "Disinfection profile" means a summary of daily giardia lamblia inactivation through the treatment plant;
- [(36)] (37) "Distribution system" means any combination of pipes, tanks, pumps, or similar devices or mechanisms that deliver water from the sources, treatment facilities or storage facilities to the consumer;
- [(37)] (38) "Domestic or other non-distribution system plumbing problem" means a coliform contamination problem in a public water system with more than 1 service connection that is limited to the specific service connection from which the coliform-positive sample was taken;
- [(38)] (39) "Dose equivalent" means the product of the absorbed dose from ionizing radiation and such factors as account for differences in biological effectiveness due to the type of radiation and its distribution in the body as specified by the International Commission on Radiation Units and Measurements;
- [(39)] (40) "Drinking water" means water, treated or untreated, intended for human use and consumption, including, but not limited to, drinking, bathing, showering, cooking, dishwashing and maintaining oral hygiene;
- [(40)] (41) "Dual sample set" means a set of 2 samples collected at the same time and same location, with 1 sample analyzed for total trihalomethanes (TTHM) and the other sample analyzed for total haloacetic acids (HAA5);
- [(41)] (42) "EC medium plus MUG" means analytical tests for waterborne bacteria as specified in 40 CFR 141.21(f), as amended from time to time;
- [(42)] (43) "E. coli" or "Escherichia coli" means a species of fecal coliform that thrives at the body temperature of mammals;
- [(43)] (44) "End of the distribution system" means the last service connection on a dead-end water main;
- [(44)] (45) "Enhanced coagulation" means the addition of sufficient coagulant for improved removal of disinfection byproduct precursors by conventional filtration treatment;
- [(45)] (46) "Enhanced softening" means the improved removal of disinfection byproduct precursors by precipitative softening;
- [(46)] (47) "EPA" means the United States Environmental Protection Agency;
- [(47)] (48) "Fecal coliform" means bacteria that grows in the colon of mammals and is transmitted through fecal material;
- [(48)] (49) "Filter profile" means a graphical representation of individual filter performance, based on continuous turbidity measurements or total particle counts versus time for an entire filter run, from startup to backwash inclusively, that includes an assessment of filter performance while another filter is being backwashed;
- [(49)] (50) "Filtration" means a process for removing particulate matter from water by passage

through porous media;

- [(50)] (51) "Finished water" means water that is introduced into the distribution system of a public water system and is intended for distribution and consumption without further treatment, except as treatment is necessary to maintain water quality in the distribution system (e.g., booster disinfection, addition of corrosion control chemicals);
- [(51)] (52) "First-draw sample" means a 1-liter sample of tap water, collected in accordance with subsection (e)(8)(B)(ii) of this section, that has been standing in plumbing pipes at least 6 hours and is collected without flushing the tap;
- [(52)] (53) "Flocculation" means a process to enhance agglomeration or collection of smaller floc particles into larger, more easily settleable particles through gentle stirring by hydraulic or mechanical means;
- [(53)] (54) "Flowing stream" means a course of running water flowing in a definite channel;
- [(54)] (55) "GAC10" means granular activated carbon filter beds with an empty-bed contact time of 10 minutes based on average daily flow and a carbon reactivation frequency of every 180 days, except that the reactivation frequency for GAC10 used as a best available technology for compliance with the MCLs under subsection (e)(11)(B)(i) of this section is 120 days;
- [(55)] (56) "GAC20" means granular activated carbon filter beds with an empty-bed contact time of 20 minutes based on average daily flow and a carbon reactivation frequency of every 240 days;
- [(56)] (57) "Gross alpha particle activity" means the total radioactivity due to alpha particle emission as inferred from measurements on a dry sample;
- [(57)] (58) "Gross beta particle activity" means the total radioactivity due to beta particle emissions as inferred from measurements on a dry sample;
- [(58)] (59) "Ground water" means the supply of source water under the earth's surface that is not under the influence of surface water;
- [(59)] (60) "Ground water system" means a public water system that provides ground water, in whole or part, directly to consumers but does not include a public water system that combines ground water with surface water prior to treatment or ground water under the direct influence of surface water;
- [(60)] (61) "Ground water under the direct influence of surface water" or "GWUDI" means any water beneath the surface of the ground with either a significant occurrence of insects or other macroorganisms, algae, or large-diameter pathogens such as giardia lamblia or Cryptosporidium, or significant and relatively rapid shifts in water characteristics such as turbidity, temperature, conductivity, or pH which closely correlate to climatological or surface water conditions. The department determination of direct influence may be based on site-specific measurements of water quality or documentation of well construction characteristics and geology, or both, which may include a field evaluation;
- [(61)] (62) "Haloacetic acid five" or "HAA5" means the sum of the concentrations in milligrams

per liter of the haloacetic acid compounds (monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid), rounded to 2 significant figures;

[(62)] (63) “Hydrogeologic sensitivity assessment” or “HSA” means the department’s act of making a determination of whether a ground water system obtains water from hydrogeologically sensitive settings taking into account information regarding the specific aquifer from which the system is drawing water, well construction records, characterization of the hydrogeology of the source aquifer, and whether the aquifer has a hydrogeologic barrier that would prevent the vertical movement of microbial pathogens from the surface into the aquifer;

[(63)] (64) “Lake” means a natural or man-made basin or hollow on the earth's surface, including a reservoir, in which water collects or is stored that may or may not have a current or single direction of flow;

[(64)] (65) “Large”, when used in reference to a public water system, means serving more than 50,000 persons;

[(65)] (66) “Lead service line” means a service line made of lead that connects the water main to a building inlet and any lead pigtail, gooseneck or other fitting connected to such lead line;

[(66)] (67) “Legionella” means a genus of bacteria, some species of which have caused a type of pneumonia called legionnaires' disease;

(68) “Level 1 assessment” means an evaluation conducted pursuant to subsection (x) of this section by the public water system or the department, if the department elects to conduct the assessment, to identify the possible presence of sanitary defects, defects in distribution system coliform monitoring practices, and, when possible, the likely reason that the public water system triggered the level 1 assessment;

(69) “Level 2 assessment” means an evaluation conducted pursuant to subsection (x) of this section by a level 2 assessor or the department, if the department elects to conduct the assessment, to identify the possible presence of sanitary defects, defects in distribution system coliform monitoring practices, and, when possible, the likely reason that the public water system triggered the assessment;

(70) “Level 2 assessor” means a certified operator who is certified at a classification level equal to or higher than the highest classification level of the public water system for which the certified operator is conducting the assessment;

[(67)] (71) “Local director of health” means a city, town, borough, or district director of health or the director of health’s authorized agent;

[(68)] (72) “Locational running annual average” or “LRAA” means the average of sample analytical results for samples taken at a particular monitoring location during the previous 4 calendar quarters;

[(69)] (73) “mg/l” means milligrams per liter;

- [(70)] (74) "Man-made beta particles and photon emitters" means all radionuclides emitting beta particles or photons, or both, listed in Maximum Permissible Body Burdens and Maximum Concentrations of Radionuclides in Air or Water for Occupational Exposure, National Bureau of Standards Handbook 69, except the daughter products of thorium-232, uranium-235 and uranium-238;
- [(71)] (75) "Maximum contaminant level" or "MCL" means the maximum permissible level of a contaminant in water that is delivered to any consumer of a public water system;
- [(72)] (76) "Maximum contaminant level goal" or "MCLG" means the maximum level of a contaminant in drinking water at which no known or anticipated adverse effect on the health of persons would occur; and which allows an adequate margin of safety. Maximum contaminant level goals are non-enforceable health goals;
- [(73)] (77) "Maximum residual disinfectant level" or "MRDL" means a level of a disinfectant added for water treatment that shall not be exceeded at the consumer's tap without an unacceptable possibility of adverse health effects. MRDL is enforceable in the same manner as maximum contaminant level;
- [(74)] (78) "Maximum residual disinfectant level goal" or "MRDLG" means the maximum level of a disinfectant added for water treatment at which no known or anticipated adverse effect on the health of persons would occur, and which allows an adequate margin of safety. MRDLG is a non-enforceable health goal and does not reflect the benefit of the addition of the chemical for control of waterborne microbial contaminants;
- [(75)] (79) "Medium-size" means serving more than 3,300 and less than or equal to 50,000 persons;
- [(76)] (80) "Membrane filtration" means a pressure or vacuum driven separation process in which particulate matter larger than 1 micrometer is rejected by an engineered barrier, primarily through a size-exclusion mechanism, and which has a measurable removal efficiency of a target organism that can be verified through the application of a direct integrity test. This definition includes the common membrane technologies of microfiltration, ultrafiltration, nanofiltration, and reverse osmosis;
- [(77)] (81) "Method detection limit" or "MDL" means the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the true value is greater than 0;
- [(78)] (82) "Microbial pathogen" means a microorganism, such as a bacterium, virus or parasite, that can cause infection and illness in humans, including, but not limited to: Echovirus, Coxsackie viruses, Hepatitis A and E, Rotavirus, Norovirus, E. coli, Salmonella species, Shigella species, and Vibrio cholerae;
- [(79)] (83) "Molecular Weight Cutoff" or "MWCO" means a measure of the removal characteristic of a membrane in terms of atomic weight or mass, as opposed to pore size, that is typically measured in terms of Daltons;
- [(80)] (84) "Near the first service connection" means at 1 of the 20 percent of all service connections in the entire system that are nearest the water supply treatment facility, as

measured by water transport time within the distribution system;

- [(81)] (85) "Non-community water system" means a public water system that serves at least 25 persons at least 60 days out of the year and is not a community water system;
- [(82)] (86) "Non-transient non-community water system" or "NTNC" means a public water system that is not a community system and that regularly serves at least 25 of the same persons over 6 months per year;
- [(83)] (87) "Notification level" means the level of a contaminant that if exceeded shall require public notification by a public water system to its consumers;
- [(84)] (88) "Optimal corrosion control treatment" means the corrosion control treatment that minimizes the lead and copper concentrations at users' taps while ensuring that the treatment does not cause the community water system or non-transient non-community water system to violate any drinking water statutes or regulations;
- [(85)] (89) "Picocurie" or "pCi" means the quantity of radioactive material producing 2.22 nuclear transformations per minute;
- [(86)] (90) "Physical parameters" means color, turbidity, pH, and odor;
- [(87)] (91) "Plant intake" means the works or structures at the head of a conduit through which water is diverted from a source (e.g., river or lake) into the treatment plant;
- [(88)] (92) "Point of disinfectant application" means the point where the disinfectant is applied and water downstream of that point is not subject to recontamination by surface water;
- [(89)] (93) "Point of entry" or "entry point" means a location on an active source of supply that is after any treatment and before the entrance to the distribution system;
- [(90)] (94) "Practical quantification level" or "PQL" means the lowest concentration that can be reliably measured within specific limits of precision and accuracy during routine laboratory operating conditions;
- [(91)] (95) "Presedimentation" means a preliminary treatment process used to remove gravel, sand and other particulate material from the source water through settling before the water enters the primary clarification and filtration processes in a treatment plant;
- [(92)] (96) "Public water system" or "system" means any water company supplying water to 15 or more consumers or 25 or more persons, based on the "Design Population" as defined in section 16-262m-8(a)(3) of the Regulations of Connecticut State Agencies, jointly administered by the department and the Public Utilities Regulatory Authority, daily at least 60 days of the year that does not meet all of the following conditions:
- (A) Consists only of distribution and storage facilities;
 - (B) Does not have any treatment facilities, other than those for non-potable use;
 - (C) Obtains all of its water from, but is not owned or operated by, a public water system;

(D) Does not separately bill the consumers for water use or consumption; and

(E) Is not a carrier which conveys passengers in interstate commerce;

[(93)] (97) "Raw water" means water in its natural state on the surface of the earth or underground;

[(94)] (98) "Repeat sample" means a sample that is collected as a result of a total coliform-positive routine sample;

[(95)] (99) "Reservoir" means a natural or man-made basin or hollow on the earth's surface, including a lake, in which water collects or is stored that may or may not have a current or single direction of flow;

[(96)] (100) "Residual disinfectant concentration" or "RDC" ("C" in CTcalc) means the concentration of disinfectant measured in mg/l in a representative sample of water;

[(97)] (101) "Routine sample" means a sample that is collected at a location and frequency as specified in the department-approved sample siting plan;

[(98)] (102) "Sanitarian" means a person who is trained in environmental health and who is qualified to carry out educational and investigational duties in the fields of environmental health such as investigation of air, water, sewage, foodstuffs, housing and refuse by observing, sampling, testing and reporting; and who is licensed pursuant to section 20-361 of the Connecticut General Statutes;

(103) "Sanitary defect" means a defect that is providing, or has the potential for providing, a pathway of entry for microbial contamination into the distribution system or that is indicative of a failure or imminent failure in a barrier that is already in place;

[(99)] (104) "Sanitary survey" means a review of a public water system by the department to evaluate the adequacy of the system, its sources and operations and the distribution of safe drinking water;

(105) "Seasonal system" means a non-community water system that is not operated as a public water system on a year-round basis and starts up and shuts down at the beginning and end of each operating season;

[(100)] (106) "Sedimentation" means a process for removal of solids before filtration by gravity or separation;

[(101)] (107) "Self assessment" means an assessment which shall comprise a written report consisting of at least the following components:

(A) Assessment of filter performance;

(B) Development of a filter profile;

(C) Identification and prioritization of factors limiting filter performance;

- (D) Assessment of the applicability of improvements;
- (E) Identification of improvements selected by a public water system to enhance filtration and achieve compliance; and
- (F) A schedule of dates for the implementation of the improvements;

[(102)] (108) "Service line sample" means a 1 liter sample of water, collected in accordance with subsection (e)(8)(B)(iii) of this section, that has been standing for at least 6 hours in a service line;

[(103)] (109) "Significant change to disinfection practice" means 1 of the following changes:

- (A) Changes to the point of disinfection;
- (B) Changes to the disinfectant(s) used in the treatment plant;
- (C) Changes to the disinfection process; or
- (D) Any other modification identified by the department that has or may have a significant impact on disinfection practices or the effectiveness of such practices, or both;

[(104)] (110) "Significant deficiency" means any situation, practice, or condition in a public water system with respect to design, operation, maintenance, or administration that the department determines to be causing, or has the potential for causing, risks to health or safety of the public served by the system. Significant deficiencies shall include, but are not limited to, defects in design, operation, or maintenance, or a failure or malfunction of the sources, treatment, including violations of subsection (j)(2) of this section, storage, or distribution system that the department determines to be causing, or has the potential for causing, the introduction of fecal contamination into the water delivered to consumers;

[(105)] (111) "Single family structure" means a building constructed as a single-family residence that is currently used as either a residence or a place of business;

[(106)] (112) "Slow sand filtration" means a process involving passage of raw water through a bed of sand at low velocity (generally less than 0.16 gallons per minute per square foot,) resulting in substantial particulate removal by physical and biological mechanisms;

[(107)] (113) "Small" means serving 3,300 persons or fewer;

[(108)] (114) "Source water" means raw water before any kind or type of treatment at the source of supply;

[(109)] (115) "Special purpose sample" means a sample that is taken to determine whether disinfection practices are sufficient following routine maintenance work on the distribution system;

[(110)] (116) "Subpart H system" means a public water system that is supplied by a surface water or ground water under the direct influence of surface water source, or both;

[(111)] (117) "Surface water" means all water that is open to the atmosphere and subject to surface runoff;

[(112)] (118) "SUVA" means specific ultraviolet absorption at 254 nanometers (nm), an indicator of the humic content of water. 1 nm is equal to 1 billionth (10^{-9}) of a meter. It is a calculated parameter obtained by dividing a sample's ultraviolet absorption at a wavelength of 254 nm (UV254) (in m^{-1}) by its concentration of dissolved organic carbon (DOC) in mg/l;

[(113)] (119) "System with a single service connection" means a system that supplies drinking water to consumers via a single service line;

[(114)] (120) "Tier 1 notice" means a notice that a public water system is required to provide for the [following] violations and other situations in subparagraphs (A) through (H) of this subdivision. 40 CFR 141, Subpart Q, Appendix A, as amended from time to time, identifies the tier assignment for each specific violation or situation.

(A) Violation of the maximum contaminant level for total coliforms when fecal coliform or E. coli are present in the distribution system, [or] when the public water system fails to test for fecal coliforms or E. coli when any repeat sample tests positive for coliform, or violation of the maximum contaminant level for E. coli, as specified in specified in subsection (e)(7)(I)(iii) of this section;

(B) Violation of the maximum contaminant level for nitrate, nitrite, or total nitrate and nitrite, or when the public water system fails to take a confirmation sample not later than 24 hours after the public water system's receipt of the first sample showing an exceedance of the nitrate or nitrite maximum contaminant level;

(C) Violation of the maximum residual disinfectant level for chlorine dioxide when 1 or more samples taken in the distribution system the day following an exceedance of the maximum residual disinfectant level at the entrance of the distribution system exceed the maximum residual disinfectant level, or when the public water system does not take the required samples in the distribution system;

(D) Violation of the maximum contaminant level for turbidity as specified in subsections (e)(7)(H)(ii) and (j)(2)(D) of this section, where the department determines after consultation with the public water system that the violation of the maximum contaminant level for turbidity combined with other site-specific information indicate that potential pathogens may have passed the point of entry to the distribution system, or where the public water system does not consult with the department within 24 hours after the public water system learns of the violation;

(E) Violation of the maximum contaminant level for turbidity as specified in subsection (j)(4) of this section, where the department determines after consultation with the public water system that the violation of the maximum contaminant level for turbidity combined with other site-specific information indicate that potential pathogens may have passed the point of entry to the distribution system, or where the public water system does not consult with the department within 24 hours after the public water system learns of the violation;

(F) Occurrence of a waterborne disease outbreak;

(G) Detection of any chemical listed in subsections (e)(2) through (e)(4), inclusive, of this section at a level that is determined by the department to have serious adverse effects on human health as a result of short-term exposure based on available scientific and epidemiological findings; or

(H) Detection of *E. coli*, enterococci, or coliphage in ground water source samples as specified in subsections (e)(12)(C) and (D) of this section.

[(115)] (121) "Tier 2 notice" means a notice that a public water system is required to provide for the [following] violations and other situations in subparagraphs (A) through (D) of this subdivision. 40 CFR 141, Subpart Q, Appendix A, as amended from time to time, identifies the tier assignment for each specific violation or situation.:

(A) All violations of the maximum contaminant level, maximum residual disinfectant level or treatment technique requirements, except where a tier 1 notice is required or where a unit or value requirement under subsection (e)(1) of this section for color, turbidity, odor, or pH is exceeding;

(B) Violations of monitoring and testing procedure requirements for total coliforms, nitrate, nitrite, total nitrate and nitrite, or chlorine dioxide, except where a tier 1 notice is required;

(C) Failure to comply with the terms and conditions of any variance, order, consent order, consent agreement or exemption; or

(D) Failure to take corrective action or failure to maintain at least 4 log treatment of viruses using inactivation, removal, or a department-approved combination of 4 log virus inactivation and removal before or at the first consumer under subsections (e)(7)(E)(vi) or (j)(14) of this section.

[(116)] (122) "Tier 3 notice" means a notice that a public water system is required to provide for the [following] violations and other situations in subparagraphs (A) through (F) of this subdivision. 40 CFR 141, Subpart Q, Appendix A, as amended from time to time, identifies the tier assignment for each specific violation or situation.

(A) Violation of a monitoring requirement, except where a tier 1 notice or a tier 2 notice is required;

(B) Failure to comply with a testing procedure requirement, except where a tier 1 notice or a tier 2 notice is required;

(C) Operation under an administrative order, variance, or an exemption;

(D) Failure to provide the notice of the availability of unregulated contaminant monitoring results, as required under 40 CFR 141.207, as amended from time to time; [or]

(E) Exceedance of the fluoride secondary maximum contaminant level, as required under 40 CFR 141.208, as amended from time to time; [.] or

(F) Violation of a reporting or record-keeping requirement under subsection (x) of this

section.

- [(117)] (123) "Too numerous to count" means that the total number of bacterial colonies exceeds 200 on a 47 mm diameter membrane filter used for coliform detection;
- [(118)] (124) "Total organic carbon" or "TOC" means total organic carbon in mg/l measured using heat, oxygen, ultraviolet irradiation, chemical oxidants, or combinations of these oxidants that convert organic carbon to carbon dioxide, rounded to 2 significant figures;
- [(119)] (125) "Total trihalomethanes" or "TTHM" means the sum of the concentrations in milligrams per liter of bromodichloromethane, dibromochloromethane, tribromoethane (bromoform) and trichloromethane (chloroform) rounded, to 2 significant figures;
- [(120)] (126) "Transient non-community water system" or "TNC" means a non-community water system that does not meet the definition of a non-transient noncommunity water system;
- [(121)] (127) "Treatment" means the process of altering the physical, chemical, biological or radiological quality of source water for use as drinking water;
- [(122)] (128) "Treatment technique" means a specific treatment method required by the department to control the level of contaminants in drinking water;
- [(123)] (129) "Two-stage lime softening" means a process in which chemical addition and hardness precipitation occur in each of 2 distinct unit clarification processes in series prior to filtration;
- [(124)] (130) "Uncovered finished water clearwell, tank or basin" means a container used to store water that shall undergo no further treatment to reduce microbial pathogens, except residual disinfection, and is directly open to the atmosphere;
- [(125)] (131) "Virus" means a microorganism of fecal origin which is infectious to humans by waterborne transmission;
- [(126)] (132) "Water company" has the same meaning as provided in section 25-32a of the Connecticut General Statutes;
- [(127)] (133) "Waterborne disease outbreak" means the significant occurrence of acute infectious illness, epidemiologically associated with the ingestion of water from a public water system as determined by the department;
- [(128)] (134) "Wholesale system" means a public water system that treats source water as necessary to produce finished water and then delivers some or all of that finished water to another public water system. Delivery may be through a direct connection or through the distribution system of 1 or more consecutive public water systems; and
- [(129)] (135) "Zone of influence" means the land area that directly overlies and has the same horizontal extent as the part of the water table or other potentiometric surface that is perceptibly lowered by the withdrawal of water. The zone of influence delineated by the use of modeling is that area of land in which the water table or potentiometric surface is lowered by at least 0.5 foot. In the event of inadequate information and data to delineate the zone of

influence, a radius of 1 mile shall be utilized for unconsolidated aquifer ground water sources and a radius of 1,000 feet shall be utilized for confined and bedrock aquifer ground water sources.

Sec. 2. Section 19-13-B102(c)(2) of the Regulations of Connecticut State Agencies is amended to read as follows:

- (2)(A) A system shall test a ground water source for the applicable contaminants listed in subsections [(e)(1)] (e)(2) through (e)(6), inclusive, of this section, if the department determines that reasonable grounds exist to suspect that any of the applicable contaminants may be present in the ground water source. For the purposes of this section, “reasonable grounds” means any information that is deemed to be credible by the department to indicate that the particular source is located on or in proximity to land on which the production, storage, use, or disposal of any of the contaminants listed in subsections [(e)(1)] (e)(2) through (e)(6), inclusive, of this section may have occurred.
- (B) Testing for contaminants under subparagraph (A) of this subdivision shall be at a frequency and duration prescribed by the department. The department shall not require a system to test for contaminants under subparagraph (A) of this subdivision more frequently than once per quarter or for longer than a consecutive 4-quarter period unless a MCL is exceeded, the concentration of dieldrin exceeds 0.00003 mg/l, the concentration of methyl tertiary-butyl ether (MTBE) exceeds 0.07 mg/l, the concentration of 1,2,3-trichloropropane exceeds 0.0005 mg/l, the concentration of lead exceeds 0.015 mg/l, or the level of the contaminant or contaminants has increased when compared to previous results.

Sec. 3. Section 19-13-B102(e)(1) of the Regulations of Connecticut State Agencies is amended to read as follows:

(1) Physical [Tests] parameter tests.

(A) Physical parameter levels.

(i) Color shall not exceed 15 standard units leaving the treatment plant nor at representative sampling points in the distribution system.

[(B)] (ii) Turbidity shall not exceed 5 standard units at representative sampling points in the distribution system.

[(C)] (iii) Odor shall not exceed a value of 2 in the treatment plant effluent on a scale of 0 to 5 as follows:

0-None	3-Distinct
1-Very Faint	4-Decided
2-Faint	5-Strong

[(D)] (iv) The pH value shall not be less than 6.4 nor exceed 10.0 at a point of entry to the distribution system or in the distribution system. A system conducting water quality parameter monitoring for pH in accordance with subsection (e)(9)(D) of this section shall comply with the pH requirements in subsection (j)(8)(G) of this section.

(B)(i) A system shall test the physical parameters of the system's finished water, if the department determines that reasonable grounds exist to suspect that the level of 1 or more of the physical parameters in the finished water have been exceeded or, in the case of pH, at a level that is less than 6.4 or greater than 10.0. For the purposes of this section, "reasonable grounds" means any information that is deemed to be credible by the department to indicate that the level of 1 or more of the physical parameters may have been exceeded or, in the case of pH, at a level that is less than 6.4 or greater than 10.0, including customer complaints.

(ii) Testing the physical parameters under clause (i) of this subparagraph shall be at a frequency and duration prescribed by the department.

Sec. 4. Section 19-13-B102(e)(6) of the Regulations of Connecticut State Agencies is amended to read as follows:

(6) Total coliforms.

(A) [The MCLG for microbiological] MGCLs for the following contaminants [which includes E. coli and fecal coliforms is zero (0).] are as specified in Table 1-A1 of this subdivision:

TABLE 1-A1. MCLGs

<u>CONTAMINANT</u>	<u>MCLG</u>
<u>(i) Giardia lamblia</u>	<u>0</u>
<u>(ii) Viruses</u>	<u>0</u>
<u>(iii) Legionella</u>	<u>0</u>
<u>(iv) Total coliforms (including fecal), coliforms and E. coli¹</u>	<u>0</u>
<u>(v) Cryptosporidium</u>	<u>0</u>
<u>(vi) E. coli²</u>	<u>0</u>

¹ This MCLG is applicable until March 31, 2016.

² This MCLG is applicable beginning on April 1, 2016.

(B) [The maximum contaminant level (MCL)] Until March 31, 2016, the total coliform MCL is based on the presence or absence of total coliforms in a sample, rather than coliform density. Compliance shall be based on a monthly MCL for total coliforms.

(i) For a system which collects at least [forty (40)] 40 samples per month, if more than [five percent (5.0%)] 5% of the samples collected during a month are total coliform-positive, the system is in violation of the MCL for total coliforms.

(ii) For a system which collects fewer than [forty (40)] 40 samples per month, if more than [one (1)] 1 sample collected during a month is total coliform-positive, the system is in violation of the MCL for total coliforms.

(C) [A] Until March 31, 2016, a system shall determine compliance with the MCL for total coliforms in subparagraph (B) of this subsection and subdivision (e)(7)(I)(ii) of this subsection for each month in which [it] the system is required to monitor for total coliforms. Beginning on April 1, 2016, a system shall determine compliance with the MCL for E. coli in subdivision (e)(7)(I)(iii) of this subsection for each month in which the system is required to monitor for total coliforms.

(D) Analytical methodology.

- (i) Analytical methods for total coliform. The analysis for total coliform should be conducted using either the membrane filter (MF) technique, or the 10-tube multiple tube fermentation (MTF) technique ([five (5)] 5 tubes may be utilized provided they collectively equal [one hundred (100)] 100 ml), or the presence-absence (P-A) coli form test, or the colilert system as approved and specified in 40 CFR 141.21(f), as amended from time to time. The standard sample volume required for total coliform analysis, regardless of analytical method used, is [one hundred (100)] 100 ml. Systems need only determine the presence or absence of total coliforms. A determination of total coliform density is not required. This clause is applicable until all required repeat monitoring under subdivision (7)(G) of this subsection and fecal coliform or E. coli testing under subdivision (7)(I)(1) of this subsection that was initiated by a total coliform-positive sample taken before April 1, 2016 is completed. Beginning on April 1, 2016, the provisions of subsection (x) of this section are applicable. Under subsection (x) of this section, beginning on April 1, 2016, systems are required to begin regular monitoring at the same frequency as the system-specific frequency required on March 31, 2016.
- (ii) Analytical methods for fecal coliforms. The use of EC medium for determining the presence of fecal coliform in a total coliform-positive culture is required. The procedure for fecal coliform analysis shall conform to those approved by EPA.
- (iii) Analytical methods for [E. Coli] E. coli. The analysis for [E. Coli] E. coli shall be conducted using either the EC medium plus MUG (4-methylumbelliferyl-B-D-glucuronide), the nutrient agar plus MUG test or other testing methods which conform to those approved by EPA.

Sec.5. Section 19-13-B102(e)(7)(A) of the Regulations of Connecticut State Agencies is amended to read as follows:

- (A) (i) [The] Until March 31, 2016, the monitoring frequency for total coliforms [and physical parameters] for [a community water system (CWS)] CWSs and [a] consecutive [public water system] systems is based on the population served by the CWS and the consecutive system[, and the frequency is as follows] in accordance with Table 7-A1 of this clause. [:] Beginning on April 1, 2016, the provisions of subsection (x) of this section are applicable. Under subsection (x) of this section, beginning on April 1, 2016, systems are required to begin regular monitoring at the same frequency as the system-specific frequency required on March 31, 2016.

[Table 1]

TABLE 7-A1. TOTAL COLIFORM MONITORING

<i>Population Served</i>	<i>Minimum Number Of</i>
<i>Routine Samples Per</i>	
<i>Month</i>	
25 to 1,000	1
1,001 to 2,500	2
2,501 to 3,300	3
3,301 to 4,100	4
4,101 to 4,900	5
4,901 to 5,800	6

5,801 to 6,700	7
6,701 to 7,600	8
7,601 to 8,500	9
8,501 to 12,900	10
12,901 to 17,200	15
17,201 to 21,500	20
21,501 to 25,000	25
25,001 to 33,000	30
33,001 to 41,000	40
41,001 to 50,000	50
50,001 to 59,000	60
59,001 to 70,000	70
70,001 to 83,000	80
83,001 to 96,000	90
96,001 to 130,000	100
130,001 to 220,000	120
220,001 to 320,000	150
320,001 to 450,000	180
450,001 to 600,000	210
600,001 to 780,000	240
780,001 to 970,000	270

(ii) [If] Until March 31, 2016, if a CWS serving [twenty-five (25)] 25 to [one-thousand (1,000)] 1,000 persons has no history of a total coliform violation in [its] such CWS current configuration[,] and a sanitary survey conducted by the department pursuant to subdivision (7)(E) of this subsection in the past [five (5)] 5 years shows that the [system] CWS is supplied solely by a protected ground water source[,] and is free of sanitary defects [pursuant to sections 19-13-B51a through 19-13-B51m of the Regulations of Connecticut State Agencies], [;] the department may, if [it] the department is satisfied that [this] such CWS's water is safe for consumption, reduce the monitoring frequency specified to [no] not less than [one (1)] 1 sample per quarter. [Department] To obtain approval [of the reduced] to reduce the monitoring frequency, [shall be in writing] such CWS shall submit an application to the department in accordance with subsection (t) of this section requesting to reduce the monitoring frequency. Water samples shall be collected by technical personnel employed by an environmental laboratory [approved] registered by the department under section [25-40] 19a-29a of the Connecticut General Statutes, [or] a certified distribution system operator, [or] a certified treatment plant operator, [or] a sanitarian, [or] an employee of the department, or a person under the direct supervision of either a certified distribution system operator[,] or a certified treatment plant operator. Beginning on April 1, 2016, the provisions of subsection (x) of this section are applicable. Under subsection (x) of this section, beginning on April 1, 2016, systems are required to begin regular monitoring at the same frequency as the system-specific frequency required on March 31, 2016.

(iii) [The] Until March 31, 2016, the residual disinfectant concentration shall be measured at the same point in the distribution system and at the same time as total coliforms are sampled, as specified in this subparagraph and subparagraph (G) of this subdivision. The presence of a residual disinfectant concentration in a sample from a system that is not approved for continuous chlorination shall invalidate the sample. Beginning on April 1, 2016, the provisions of subsection (x) of this section are applicable. Under subsection (x) of this

section, beginning on April 1, 2016, systems are required to begin regular monitoring at the same frequency as the system-specific frequency required on March 31, 2016.

Sec. 6. Section 19-13-B102(e)(7)(B) of the Regulations of Connecticut State Agencies is amended to read as follows:

(B)(i) [The] Until March 31, 2016, the monitoring frequency for total coliforms [and physical parameters] for non-community water systems is as follows in clauses (i) through (v) of this subparagraph. [:] Beginning on April 1, 2016, the provisions of subsection (x) of this section are applicable. Under subsection (x) of this section, beginning on April 1, 2016 systems are required to begin regular monitoring at the same frequency as the system-specific frequency required on March 31, 2016.

- (i) A non-community water system using only ground water sources that are not under the direct influence of surface water and serving [one thousand (1,000)] 1,000 persons or fewer shall monitor during each calendar quarter that [the] such non-community water system provides water to the public, except that the department may reduce this monitoring frequency[, in writing,] to [no] not less than once a year if a sanitary survey shows that the system is free of sanitary defects [pursuant to sections 19-13-B51a through 19-13-B51m of the Regulations of Connecticut State Agencies]. To obtain approval to reduce the monitoring frequency to not less than once a year, such non-community water system shall submit an application to the department in accordance with subsection (t) of this section requesting to reduce the monitoring frequency.
- (ii) A non-community water system using only ground water sources that are not under the direct influence of surface water and serving more than [one thousand (1,000)] 1,000 persons shall monitor as specified in Table [1] 7-A1 of subparagraph (A). [Monitoring shall begin no later than December 31, 1990.]
- (iii) A non-community water system using surface water, in total or in part, shall monitor at the frequency specified in Table [1] 7-A1 of subparagraph (A), regardless of the number of persons it serves. [Monitoring shall begin no later than December 31, 1990].
- (iv) A non-community water system using groundwater under the direct influence of surface water[,] shall monitor at the frequency specified in Table [1] 7-A1 of subparagraph (A). Monitoring shall begin [six (6)] 6 months after the department determines that the ground water is under direct influence of surface water.
- (v) The residual disinfectant concentration shall be measured at the same point in the distribution system and at the same time as total coliforms are sampled, as specified in this subparagraph and subparagraph (G) of this subdivision. The presence of a residual disinfectant concentration in a sample from a system that is not approved for continuous chlorination shall invalidate the sample.

Sec. 7. Section 19-13-B102(e)(7)(D)(i) of the Regulations of Connecticut State Agencies is amended to read as follows:

(D) Sampling sites.

(i)(I) Sample siting plan. Until March 31, 2016, a system shall provide to the department at the system's sanitary survey conducted by the department pursuant to subsection (e)(7)(E) of this section a sample siting plan for review by the department. Such review by the department shall ensure the system's sampling siting plan is in compliance with the requirements of this subparagraph. The department may request a system to provide additional information necessary to aid the department in its review of the sample siting plan and may modify the sample siting plan if the department concludes that such modification is necessary to ensure that the system's sampling sites are representative of water throughout the distribution system. Beginning on April 1, 2016, the provisions of subsection (x) of this section are applicable. Under subsection (x) of this section, beginning on April 1, 2016, systems are required to begin regular monitoring at the same frequency as the system-specific frequency required on March 31, 2016.

(II) [Systems] Until March 31, 2016, systems shall collect total coliform [and physical samples] at sites that are representative of water throughout the distribution system, according to that system's [written] sample siting plan under subclause (I) of this clause. [These plans are subject to department review, revision and approval.] Systems shall collect the monthly samples at regular intervals throughout the month, except that a system that uses ground water sources that are not under the direct influence of surface water and serves [one thousand (1,000)] 1,000 persons or fewer[,] may collect all required samples on a single day if [they] the samples are taken from different sites. [The siting plan is to be reviewed as necessary and is subject to approval by the department, usually in conjunction with the sanitary surveys.] Beginning on April 1, 2016, the provisions of subsection (x) of this section are applicable. Under subsection (x) of this section, beginning on April 1, 2016 systems are required to begin regular monitoring at the same frequency as the system-specific frequency required on March 31, 2016.

Sec. 8. Section 19-13-B102(e)(7)(F) of the Regulations of Connecticut State Agencies is amended to read as follows:

(F) Invalidation of total coliform-positive samples. A total coliform sample invalidated under this subparagraph does not count towards meeting the minimum monitoring requirements of this subdivision. The department may invalidate a total coliform-positive sample only if [:] the conditions in clauses (i), (ii), or (iii) are met. The provisions of this subparagraph are applicable until all required repeat monitoring under subparagraph (G) of this subdivision and fecal coliform or E. coli testing under subparagraph (I)(1) of this subdivision that was initiated by a total coliform-positive sample taken before April 1, 2016 is completed. Beginning on April 1, 2016, the provisions of subsection (x) of this section are applicable. Under subsection (x) of this section, beginning on April 1, 2016 systems are required to begin regular monitoring at the same frequency as the system-specific frequency required on March 31, 2016.

- (i) The [department approved] laboratory registered by the department pursuant to section 19a-29a of the Connecticut General Statutes establishes and verifies in writing that improper sample analysis caused the total coliform-positive result.
- (ii) The system determines that the contamination is a domestic or other non-distribution system plumbing problem on the basis that [one (1)] 1 or more repeat [sample(s)] samples taken at the same tap as the original total coliform-positive sample is total coliform-positive, but all repeat samples at nearby sampling locations are total coliform-negative. (The department cannot invalidate a total coliform-positive sample on the basis of repeat samples if all the

repeat samples are total coliform-negative, or if the system has only [one (1)] 1 service connection.)

- (iii) The department has substantial grounds to believe that a total coliform-positive result is due to some circumstance or condition that does not reflect water quality in the distribution system[, if the basis for this determination with the rationale for the decision is documented in writing, this document is signed and approved by the supervisor of the department official who makes this determination, and the documentation is made available to EPA and the public]. In this case, the system shall still collect all repeat samples as required in subparagraph (G) of [subsection 19-13-B102(e)(7) of the regulations of Connecticut State Agencies] this subdivision. The department may not invalidate a total coliform-positive sample solely on the grounds that all repeat samples are total coliform-negative.

Sec. 9. Section 19-13-B102(e)(7)(G) of the Regulations of Connecticut State Agencies is amended to read as follows:

(G) [Repeat monitoring/additional routine samples:] Repeat monitoring and additional routine samples: The provisions of this subparagraph are applicable until all required repeat monitoring under this subparagraph and fecal coliform or E. coli testing under subparagraph (I)(1) of this subdivision that was initiated by a total coliform-positive sample taken before April 1, 2016 is completed. Beginning on April 1, 2016, the provisions of subsection (x) of this section are applicable. Under subsection (x) of this section, beginning on April 1, 2016 systems are required to begin regular monitoring at the same frequency as the system-specific frequency required on March 31, 2016.

- (i) (I) If a routine sample is [confirmed] total coliform-positive, the system shall collect a set of repeat samples within [twenty-four (24)] 24 hours of the [confirmed] positive result, [according to Table [2] 7-A2 of this clause.

[Table 2 - Monitoring Requirements Following A Total Coliform-Positive Routine Sample:

<i>Routine Samples/Mo.</i>	<i>Repeat Samples¹</i>	<i>Routine Samples Next Month²</i>
1/Mo. or fewer	4	5/Mo.
2/Mo.	3	5/Mo.
3/Mo.	3	5/Mo.
4/Mo.	3	5/Mo.
5/Mo. or more	3	Table 1 ^{3]}

TABLE 7-A2. MONITORING REQUIREMENTS FOLLOWING A TOTAL COLIFORM-POSITIVE ROUTINE SAMPLE

<i><u>Routine Samples/Mo.</u></i>	<i><u>Repeat Samples¹</u></i>	<i><u>Routine Samples Next Month²</u></i>
<u>1 per month or fewer</u>	<u>4</u>	<u>5 per month</u>
<u>2 per month</u>	<u>3</u>	<u>5 per month</u>
<u>3 per month</u>	<u>3</u>	<u>5 per month</u>
<u>4 per month</u>	<u>3</u>	<u>5 per month</u>
<u>5 per month</u>	<u>3</u>	<u>Table 7-A1 of subparagraph (A) of this subdivision³</u>

¹ Number of repeat samples in the same month for each total coliform-positive routine sample.

² Except where the department has invalidated the original routine sample.

³ [System need not] A system is not required to take any additional samples beyond those [it] the system is required to take according to Table [1] 7-A1 of subparagraph (A) of this subdivision.

[The department shall extend the twenty-four (24) hour limit to no more than ninety-six (96) hours provided the system verifies that their contract laboratory is closed for the weekend or holidays or their sample sites are unavailable. (Waiver shall be requested and granted before the original twenty-four(24) hour period elapses.)]

(II) The department may extend the 24-hour time limit if the system has a logistical problem in collecting the repeat samples within the 24 hours that is beyond the system's control. A system shall submit an application to the department in accordance with subsection (t) of this section requesting an extension beyond the 24-hour time limit, specifying the logistical problem that is beyond the system's control that prevented such system from collecting the repeat samples not later than 24 hours after notification of the total coliform-positive sample. The system shall file such application with the department not later than 24 hours after being notified of the total coliform-positive sample. If the department's office is closed at that time, the system shall file such application with the department before the end of the next business day. The department shall not grant an extension of more than 72 hours, thereby approving the system to collect the repeat samples not later than 96 hours after notification of the total coliform-positive sample, unless the system in the system's application provides evidence that the system's contract laboratory is closed for the weekend or a holiday and the closure will prevent such system from collecting the repeat samples not later than 96 hours after being notified of the total coliform-positive sample.

- (ii) The system shall collect at least [one (1)] 1 repeat sample from the sampling tap where the original total coliform-positive sample was taken and at least [one (1)] 1 repeat sample at a tap within [five (5)] 5 service connections upstream and at least [one (1)] 1 repeat sample at a tap within [five (5)] 5 service connections downstream of the original sampling site. For those systems that shall collect [four (4)] 4 repeat samples, the fourth repeat sample [can] may be collected from any distribution sampling point within the system. If a total coliform-positive sample is at the end or at the beginning of the distribution system, the system shall collect [one (1)] 1 repeat sample at the original sampling point and the other required repeat samples at sampling points within [five (5)] 5 service connections upstream or downstream from the original sampling point.
- (iii) The system shall collect all repeat samples on the same day, except that the department may allow a system with a single service connection to collect the required set of repeat samples over a [four-day] 4-day period or to collect a larger volume repeat [sample(s)] repeat sample or samples in [one (1)] 1 or more sample containers of any size, as long as the total volume collected is at least 400 ml (300 ml for systems that collect more than [one (1)] 1 routine sample/month) provided [four (4)] 4 separate sampling locations are not available.
- (iv) If a system collecting fewer than [five (5)] 5 routine samples per month has [one (1)] 1 or more total coliform-positive samples and the department does not invalidate the [sample(s)] sample or samples under subparagraph (F) of this subdivision, [it] the system shall collect at least [five (5)] 5 routine samples during the next month the system provides water to the public.

- (v) If, after a system collects a routine sample and before it learns the results of the analysis of that sample, [it] the system collects another routine [sample(s)] sample or samples from within [five (5)] 5 adjacent service connections of the initial sample, and the initial sample after analysis is found to contain total [coliforms;] coliform, then the system may count the subsequent [sample(s)] sample or samples as a repeat sample instead of as a routine sample.
- (vi) If 1 or more samples in the set of repeat samples is [confirmed] total coliform-positive, the system shall collect an additional set of repeat samples. The system shall collect the additional samples not later than 24 hours after the [confirmed] positive result, unless the department extends the 24-hour limit under clause (i) of this subparagraph. The system shall repeat this process until either total coliforms are not detected in 1 complete set of repeat samples or the system determines that the MCL for total coliforms has been exceeded and notifies the department.
- (vii) Results of all routine and repeat samples not invalidated by the department shall be included in determining compliance with the MCL for total coliforms in subdivision (6) of this subsection. Special purpose samples shall not be used to determine compliance with the MCL for total coliforms.

Sec. 10. Section 19-13-B102(e)(7)(H) of the Regulations of Connecticut State Agencies is amended to read as follows:

(H)(i) A system that uses a [groundwater source under the direct influence of surface water,] GWUDI source and that does not provide and operate treatment pursuant to subsection (j)(2) of this section [19-13-B102 (j)(2) of the Regulations of Connecticut State Agencies,] shall collect and test for [total coliform and] turbidity levels [as specified in the following subclauses:

- (i) The system shall collect at least one (1) total coliform sample which shall be collected near the first service connection each day the turbidity level of the source water exceeds one (1) nephelometric turbidity unit (NTU). The system shall collect this coliform sample within twenty-four (24) hours of the first exceedance of one (1) NTU, unless the department waives this requirement as noted in subparagraph (7)(G)(i) of this subsection. Sample results from this coliform monitoring shall be included along with the results of all acceptable, as determined by the department, routine and repeat samples in determining compliance with the MCL for total coliforms.
- (ii) The system shall perform tests for turbidity on samples collected,] at least daily, at a point or points representative of water entering the distribution system. The system shall conduct such tests in accordance with the method as specified in 40 CFR 141.74(a)(1), as amended from time to time. When the turbidity of any such sample exceeds [one (1)] 1 nephelometric turbidity unit (NTU), the sampling shall be repeated and a new test made for turbidity within [one] 1 hour of the original test or as soon as practical. If the repeat test also exceeds the turbidity limit of [one (1)] 1 NTU, [this shall be reported] the system shall report such result to the department within [twenty-four (24)] 24 hours of notification of such result. If the monthly average exceeds [one (1)] 1 NTU, or if the average of [two (2)] samples taken on consecutive days exceeds [five (5)] 5 NTU, [it] the system shall [be reported] report such result to the department within [twenty-four (24) hours] of notification of such result.

(ii) Until March 31, 2016, a system that uses a GWUDI source and that does not provide and operate treatment pursuant to subsection (j)(2) of this section shall collect at least 1 total coliform sample near the first service connection each day the turbidity level of the source water, measured as specified in 40 CFR 141.74(b)(2), as amended from time to time, exceeds 1 NTU. The system shall analyze the sample for the presence of total coliforms. When 1 or more turbidity measurements in any 1 day exceed 1 NTU, the system shall collect this coliform sample within 24 hours of the first exceedance. The department may extend the 24-hour time limit if the department determines, for logistical reasons beyond the system's control, the system cannot have the sample analyzed within 30 hours of collection. A system shall submit an application to the department in accordance with subsection (t) of this section requesting an extension beyond the 24-hour time limit, specifying the logistical problem that is beyond the system's control that will prevent the system from having the sample analyzed within 30 hours of collection. The system shall file such application with the department not later than 24 hours after being notified of that 1 or more turbidity measurements in any 1 day exceed 1 NTU. If the department's office is closed at that time, the system shall file such application with the department before the end of the next business day. The department shall not grant an extension of more than 72 hours, thereby approving the system to collect the repeat samples not later than 96 hours after notification of the total coliform-positive sample, unless the system in the system's application provides evidence that the system's contract laboratory is closed for the weekend or a holiday and the closure will prevent such system from collecting the repeat samples not later than 96 hours after being notified of the total coliform-positive sample. Beginning on April 1, 2016, the provisions of subsection (x) of this section are applicable. Under subsection (x) of this section, beginning on April 1, 2016 systems are required to begin regular monitoring at the same frequency as the system-specific frequency required on March 31, 2016.

Sec. 11. Section 19-13-B102(e)(7)(I) of the Regulations of Connecticut State Agencies is amended to read as follows:

(I) Fecal coliform and E. coli requirements.

- (i) If any routine or repeat sample is total coliform-positive, the system shall analyze that total coliform-positive culture medium to determine if fecal coliforms or E. coli are present. [The] If fecal coliforms or E. coli are present, the system shall notify the department by the end of the day on which the system is notified of the positive test result [but not later than 96 hours after the time of sample collection]. If the department's office is closed at that time, notification shall be made before the end of the next business day. This clause is applicable until all required repeat monitoring under subparagraph (G) of this subdivision and fecal coliform or E. coli testing under this clause that was initiated by a total coliform-positive sample taken before April 1, 2016 is completed. Beginning on April 1, 2016, the provisions of subsection (x) of this section are applicable. Under subsection (x) of this section, beginning on April 1, 2016 systems are required to begin regular monitoring at the same frequency as the system-specific frequency required on March 31, 2016.
- (ii) [If] Until March 31, 2016, if any repeat sample is fecal coliform-positive or E. coli-positive, or if a fecal coliform-positive or E. coli-positive routine sample is followed by a total coliform-positive repeat sample and the repeat sample is not invalidated under subparagraph (f) of this section, the system is in violation of the MCL for total coliforms. This is an acute risk violation of the MCL for total coliforms.

(iii) Beginning on April 1, 2016, a system is in compliance with the MCL for E. coli for samples taken under the provisions of subsection (x) of this section unless any of the conditions identified in subclauses (I) through (IV) of this clause occur. For purposes of the public notification requirements in subsection (i) of this section, violation of the MCL may pose an acute risk.

(I) The system has an E. coli-positive repeat sample following a total coliform-positive routine sample.

(II) The system has a total coliform-positive repeat sample following an E. coli-positive routine sample.

(III) The system fails to take all required repeat samples following an E. coli-positive routine sample.

(IV) The system fails to test for E. coli when any repeat sample tests positive for total coliform.

(iv) Until March 31, 2016, a system shall determine compliance with the MCL for total coliforms in subdivision (6)(B) of this subsection and clause (ii) of this subparagraph for each month in which the system is required to monitor for total coliforms. Beginning on April 1, 2016, a system shall determine compliance with the MCL for E. coli in clause (iii) of this subparagraph for each month in which the system is required to monitor for total coliforms.

(v) The best technology, treatment techniques, or other means available for achieving compliance with the MCL for total coliforms in subdivision (6)(B) of this subsection and clause (ii) of this subparagraph and for achieving compliance with the MCL for E. coli in clause (iii) of this subparagraph are specified in 40 CFR 141.63(e), as amended from time to time.

(vi) The affordable and best technology, treatment techniques, or other means available to systems serving 10,000 or fewer people for achieving compliance with the MCL for total coliforms in subdivision (6)(B) of this subsection and clause (ii) of this subparagraph and for achieving compliance with the MCL for E. coli in clause (iii) of this subparagraph are specified in 40 CFR 141.63(e), as amended from time to time.

Sec. 12. Section 19-13-B102(e)(7)(J) of the Regulations of Connecticut State Agencies is amended to read as follows:

(J) Heterotrophic bacteria interference (HBI). The provisions of this subparagraph are applicable until all required repeat monitoring under subparagraph (G) of this subdivision and fecal coliform or E. coli testing under subparagraph (I)(1) of this subdivision that was initiated by a total coliform-positive sample taken before April 1, 2016 is completed. Beginning on April 1, 2016, the provisions of subsection (x) of this section are applicable. Under subsection (x) of this section, beginning on April 1, 2016 systems are required to begin regular monitoring at the same frequency as the system-specific frequency required on March 31, 2016.

(i) A laboratory analysis shall be conducted by an environmental laboratory [issued a certificate of approval] registered by the department pursuant to section 19a-29a of the Connecticut General Statutes.

- (ii) A laboratory shall invalidate any total coliform sample which produces: a turbid culture in the absence of gas production using the multiple tube fermentation (MTF) technique, or a turbid culture in the absence of an acid reaction using the presence-absence (P-A) coliform test, or confluent growth or a colony number that is "too numerous to count" using the membrane filter (MF) technique (unless total coliforms are detected).
- (iii) If a laboratory invalidates a total coliform sample under clause (ii) of this subparagraph, the system shall collect another sample from the same location not later than 24 hours after notification from the laboratory that such sample is invalidated, and have the sample analyzed for total coliforms. If HBI occurs in the replacement sample, the system shall continue to resample at the same location not later than 24 hours after notification of the laboratory until a sample in which HBI does not occur is obtained. The results of the sample in which HBI does not occur shall be included in compliance calculations.

Sec. 13. Section 19-13-B102(e)(7)(S)(iii) of the Regulations of Connecticut State Agencies is amended to read as follows:

- (iii) [The] Until March 31, 2016, the system shall measure the residual disinfectant concentration [shall be measured] at least at the same points in the distribution system and at the same time as total coliforms are sampled, as specified in [section 19-13-B102(e)(7) of the Regulations of Connecticut State Agencies] this subdivision. Beginning on April 1, 2016, the system shall measure the residual disinfectant concentration at least at the same points in the distribution system and at the same time as total coliforms are sampled, as specified in subsection (x)(4) through (8) of this section. Heterotrophic bacteria, measured as heterotrophic plate count [(HPC)] , as specified in 40 CFR 141.74 (a)(1), as amended from time to time, may [additionally] be measured and used in conjunction with the measurement for residual disinfectant concentration when determining compliance pursuant to subsection (j)(3)(B)(iii) of this section [19-13-B102(j)(3)(B)(iii) of the Regulations of Connecticut State Agencies].

Sec. 14. Section 19-13-B102(e)(11)(A)(iii)(III)(1)(A) of the Regulations of Connecticut State Agencies is amended to read as follows:

- (A) Routine monitoring for chlorine and chloramines. [Such] Until March 31, 2016, such CWSs and such NTNCs shall measure the residual disinfectant level in the distribution system at the same point in the distribution system and at the same time as total coliforms are sampled in accordance with subsection (e)(7) of this section. Beginning on April 1, 2016, such CWSs and NTNCs shall measure the residual disinfectant level in the distribution system at the same point in the distribution system and at the same time as total coliforms are sampled, as specified in subsection (x)(4) through (8) of this section. Such CWSs and such NTNCs that are Subpart H systems may use the results of RDC sampling conducted under 40 CFR 141.74(c)(3)(i), as amended from time to time, in lieu of taking separate samples.

Sec. 15. Section 19-13-B102(e)(12)(C) of the Regulations of Connecticut State Agencies is amended to read as follows:

- (C) Triggered source water monitoring.

(i) General requirements.

(I) E. coli is the fecal indicator for triggered source water monitoring under this subparagraph, unless the department specifies another fecal indicator that shall be used.

(II) A ground water system shall conduct triggered source water monitoring if [the following] the conditions identified in subclause (II)(1) of this clause and either subclause (II)(2) or (II)(3) of this clause exist:

(1) The ground water system does not provide at least 4 log treatment of viruses using inactivation, removal, or a department-approved combination of 4 log virus inactivation and removal before or at the first consumer for each ground water source that the department has approved under subsection (j)(14)(B)(i) or (ii) of this section; and either

(2) [The] Until March 31, 2016, the ground water system is notified that a sample collected under subdivision (7)(A) or (B) of this subsection is total coliform-positive and the sample is not invalidated by the department under subdivision (7)(F) of this subsection, or [.]

(3) Beginning on April 1, 2016, the ground water system is notified that a sample collected under subsection (x)(4) through (x)(7) of this section is total coliform-positive and the sample is not invalidated by the department under subsection (x)(3)(C) of this section.

(ii) Sampling requirements. A ground water system shall collect, not later than 24 hours after notification of a total coliform-positive sample collected under subdivision (7)(A) or (B) of this subsection, at least 1 ground water source sample from each ground water source in use at the time the total coliform-positive sample was collected under subdivision (7)(A) or (B) of this subsection, until March 31, 2016, or collected under subsection (x)(4) through (x)(7) of this section beginning April 1, 2016, except as provided in subclause (II) of this clause. For purposes of this clause, the term “in use” means the ground water source had the capacity to provide water to the monitoring site at the time the total coliform-positive sample was collected under subdivision (7)(A) or (B) of this subsection.

(I) The department may extend the 24-hour time limit if the ground water system cannot collect the ground water source sample within 24 hours due to circumstances beyond the ground water system’s control. A ground water system shall submit an application to the department in accordance with subsection (t) of this section requesting an extension beyond the 24-hour time limit, specifying the circumstances beyond the ground water system’s control that prevented such ground water system from collecting a ground water source sample not later than 24 hours after notification of the total coliform-positive sample. The ground water system shall file such application with the department not later than 24 hours after being notified of the total coliform-positive sample. If the department’s office is closed at that time, the ground water system shall file such application with the department before the end of the next business day. The department shall not grant an extension of more than 72 hours, thereby approving the system to collect the ground water source sample not later than

96 hours after notification of the total coliform-positive sample, unless the ground water system in the ground water system's application provides evidence that the ground water system's contract laboratory is closed for the weekend or a holiday and the closure will prevent such ground water system from collecting the ground water source sample not later than 96 hours after being notified of the total coliform-positive sample.

(II) If approved by the department, ground water systems with more than 1 ground water source may meet the requirements of this clause by sampling a representative ground water source or sources. A ground water system shall submit an application to the department in accordance with subsection (t) of this section requesting approval to meet the requirements of this clause by sampling a representative ground water source or sources. Ground water systems shall include with the application a triggered source water monitoring plan that identifies all of the ground water sources that are representative of each distribution system monitoring site in the ground water system's sample siting plan under subdivision (7)(D)(i) of this subsection, until March 31, 2016, or under subsection (x)(3) of this section, beginning April 1, 2016, and that the ground water system intends to use for representative sampling under this subclause. Such plan shall include all of the ground water sources that supply each of the distribution system monitoring sites in the ground water system's sample siting plan under subdivision (7)(D)(i) of this subsection under normal operating conditions. A ground water system shall not meet the requirements of this clause by sampling a representative ground water source or sources until the ground water system has received department approval of the ground water system's application.

(III) [A] Until March 31, 2016, a ground water system serving 1,000 people or fewer may use a repeat sample collected from a ground water source to meet both the requirements of subdivision (7)(G)(i) of this subsection and to satisfy the monitoring requirements of this clause if the department-approved fecal indicator under clause (i)(I) of this subparagraph is E. coli. If the repeat sample collected from the ground water source is E. coli positive, the ground water system shall comply with the requirements of clause (iii) of this subparagraph. [The ground water system shall also comply with the requirements of subdivision (7)(G) of this subsection, if applicable.]

(IV) Beginning on April 1, 2016, a ground water system serving 1,000 or fewer people may use a single sample collected from a ground water source to meet both the requirements of subsection (x) of this section and to satisfy the monitoring requirements of this clause for that ground water source only if (a) the department-approved fecal indicator under clause (i)(I) of this subparagraph is E. coli and (b) the department approved in subsection (x)(3)(A)(vii)(II) of this section the use of a single sample for meeting both the triggered source water monitoring requirements in this subparagraph and the repeat monitoring requirements in subsection (x)(8) of this section. If the repeat sample collected from the ground water source is E. coli-positive, the system shall comply with clause (iii) of this subparagraph.

(iii) Additional requirements. If the department does not require corrective action under subsection (j)(14)(A) of this section for a fecal indicator-positive source water sample collected under clause (ii) or (iv) of this subparagraph that is not invalidated under subparagraph (F) of this subdivision or if the department does not invalidate a fecal indicator-positive source water sample collected under subparagraph (D)(ii) or (I) of this

subdivision, the ground water system shall collect 5 additional source water samples from the same source not later than 24 hours after being notified of a fecal indicator-positive sample collected under subparagraphs (C)(ii), (C)(iv), (D)(ii) or (I) of this subdivision. If a ground water system is unable to collect the additional source water samples not later than 24 hours after being notified of the fecal indicator-positive sample, the ground water system shall submit an application to the department requesting an extension beyond the 24-hour time limit. Such application shall include documentation demonstrating that the ground water system's contract laboratory is closed for the weekend or a holiday and the closure will prevent such ground water system from collecting the ground water source sample not later than 24 hours after being notified of the fecal indicator-positive sample, and shall be submitted in accordance with subsection (t) of this section. The ground water system shall file such application with the department not later than 24 hours after being notified of the fecal indicator-positive sample. If the department's office is closed at that time, the ground water system shall file such application with the department before the end of the next business day. The department shall not grant an extension of more than 72 hours, thereby approving the ground water system to collect the ground water source sample not later than 96 hours after notification of the fecal indicator-positive sample.

(iv) Consecutive and wholesale systems.

- (I) In addition to the other requirements in this subparagraph, a consecutive public water system served by a ground water source or sources that has a total coliform-positive sample collected under subdivision (7)(A) or (B) of this subsection until March 31, 2016, or under subsection (x)(4) through (x)(7) of this section beginning April 1, 2016, shall notify the wholesale system or systems not later than 24 hours after being notified of the total coliform-positive sample, unless the wholesale system's office is closed at that time, in which case the consecutive public water system served by a ground water source or sources shall notify those wholesale system or systems before the end of the next business day.
- (II) In addition to the other requirements in this subparagraph, a wholesale ground water system shall comply with the following requirements:
 - (1) A wholesale system served by a ground water source or sources that receives notice from a consecutive system it serves that a sample collected under subdivision (7)(A) or (B) of this subsection until March 31, 2016, or collected under subsection (x)(4) through (x)(7) of this section beginning April 1, 2016, is total coliform-positive shall, not later than 24 hours after being notified, collect a sample from the wholesale ground water system's ground water source or sources under clause (ii) of this subparagraph and analyze the sample for a fecal indicator in accordance with the analytical methods in subparagraph (E) of this subdivision.
 - (2) If the sample collected under subclause (II)(1) of this clause is fecal indicator-positive, the wholesale system served by a ground water source or sources shall notify all consecutive systems served by that ground water source of the fecal indicator source water positive not later than 24 hours after being notified of the ground water source sample monitoring result, unless 1 or more of the consecutive systems' offices are closed at that time, in which case the wholesale system served by a ground water source or sources shall notify those consecutive systems before

the end of the next business day, and shall meet the requirements of clause (iii) of this subparagraph.

- (v) Exceptions to the triggered source water monitoring requirements. A ground water system is not required to comply with the source water monitoring requirements of this subparagraph if any of the following conditions exist:

- (I) The department determines that the total coliform-positive sample collected under subdivision (7)(A) or (B) of this subsection until March 31, 2016, or under subsection (x)(4) through (x)(7) of this subsection beginning April 1, 2016, is caused by a previously-documented distribution system deficiency. A ground water system shall submit an application to the department in accordance with subsection (t) of this section requesting a determination from the department whether the total coliform-positive sample collected under subdivision (7)(A) or (B) of this subsection until March 31, 2016, or under subsection (x)(4) through (x)(7) of this subsection beginning April 1, 2016, was caused by a distribution system deficiency. The application shall include documentation demonstrating that the distribution system deficiency that caused the total coliform-positive sample was previously documented. Documentation that the distribution system deficiency was previously documented includes, but is not limited to, distribution system sampling results, repair records, facility inspection reports, cross connection surveys, and documentation of areas of low pressure. The ground water system shall submit such application to the department before the total coliform-positive sample result is received by the department;
- (II) The department determines that the total coliform-positive sample collected under subdivision (7)(A) or (B) of this subsection until March 31, 2016, or under subsection (x)(4) through (x)(7) of this subsection beginning April 1, 2016, was collected at a location in the distribution system that has a condition that will cause total coliform-positive samples. A ground water system shall submit an application to the department in accordance with subsection (t) of this section requesting a determination from the department whether the total coliform-positive sample collected under subdivision (7)(A) or (B) of this subsection until March 31, 2016, or under subsection (x)(4) through (x)(7) of this subsection beginning April 1, 2016, was collected at a location in the distribution system that has a condition that will cause total coliform-positive samples. Such application shall include documentation demonstrating that the condition in the distribution system will cause a total coliform-positive sample. Documentation that a condition in the distribution system caused the total coliform-positive sample includes, but is not limited to, documentation of recurring bio-film problems. The ground water system shall submit such application to the department before the total coliform-positive sample result is received by the department; or
- (III) The ground water system provides at least 4 log treatment of viruses using inactivation, removal, or a department-approved combination of 4 log virus inactivation and removal before or at the first consumer for each ground water source that the department has approved under subsection (j)(14)(B)(i) or (ii) of this section.

Sec. 16. Section 19-13-B102(h)(1) and (2) of the Regulations of Connecticut State Agencies are amended to read as follows:

- (1)(i) A system that has exceeded the MCL for total coliforms [or a ground water system that has collected a source water sample under subsections (e)(12)(C) or (e)(12)(D) of this section that is fecal indicator-positive] shall report the violation [or the fecal indicator-positive sample] in writing to the department and the local director of health of each city, town, borough, or district served by the system not later than the end of the next business day after the system learns of the violation [or fecal indicator-positive sample], and shall provide notice to the public in accordance with subsection (i) of this section. This clause is applicable until all required repeat monitoring under subsection (e)(7)(G) of this section and fecal coliform or E. coli testing under subsection (e)(7)(I)(1) of this section that was initiated by a total coliform-positive sample taken before April 1, 2016 is completed. Beginning on April 1, 2016, the provisions of subsection (x) of this section are applicable. Under subsection (x) of this section, beginning on April 1, 2016 systems are required to begin regular monitoring at the same frequency as the system-specific frequency required on March 31, 2016.
- (ii) A ground water system that has collected a source water sample under subsections (e)(12)(C) or (e)(12)(D) of this section that is fecal indicator-positive shall report the fecal indicator-positive sample in writing to the department and the local director of health of each city, town, borough, or district served by the system not later than the end of the next business day after the system learns of the fecal indicator-positive sample, and shall provide notice to the public in accordance with subsection (i) of this section.
- (2) A system that has failed to comply with a monitoring requirement under subsections (e)(6) and (e)(7) of this section shall report the monitoring violation in writing to the department not later than 10 days after the system discovers the violation, and shall provide notice to the public in accordance with subsection (i) of this section. This subdivision is applicable until all required repeat monitoring under subsection (e)(7)(G) of this section and fecal coliform or E. coli testing under subsection (e)(7)(I)(1) of this section that was initiated by a total coliform-positive sample taken before April 1, 2016 is completed. Beginning on April 1, 2016, the provisions of subsection (x) of this section are applicable. Under subsection (x) of this section, beginning on April 1, 2016 systems are required to begin regular monitoring at the same frequency as the system-specific frequency required on March 31, 2016.

Sec. 17. Section 19-13-B102(i)(2) of the Regulations of Connecticut State Agencies is amended to read as follows:

- (2) Tier 2 notice form, manner and frequency of notice. For a tier 2 notice, a system shall comply with the following requirements:
 - (A) Provide a public notice to the system's consumers as soon as practical but not later than 30 days after the system learns of the violation in 1 or more of the following forms of delivery:
 - (i) Mail or other direct delivery to each consumer receiving a bill and to other service connections to which water is delivered by the system; and
 - (ii) Publication in a local newspaper or newsletter;
 - (iii) Posting the notice in conspicuous locations throughout the distribution system and frequented by persons served by the system; or

(iv) Any other delivery method approved in writing by the department. To request approval to use another delivery method, the system shall submit an application to the department in accordance with subsection (t) of this section not later than 15 calendar days after the system learns of the violation.

(B) After the initial notice, the system shall repeat the notice every 3 months for as long as the violation or situation persists.

(C) If the public notice is posted, the notice shall remain in place for as long as the violation or situation persists, but in no case for less than 7 calendar days, even if the violation or situation is resolved.

Sec. 18. Section 19-13-B102(j)(2)(D) of the Regulations of Connecticut State Agencies is amended to read as follows:

(D) A system shall install and have operational treatment consisting of disinfection and filtration in accordance with this subdivision not later than 18 months after the department's determination that treatment is required for a ground water source. Such determination shall be made if that ground water source is at risk of contamination from surface water. As an interim requirement until such treatment is operational, turbidity shall not exceed a monthly average of 1 nephelometric turbidity unit (NTU) or a 2 consecutive day average of 5 NTUs as monitored pursuant to subsection (e)(7)(H) of this section until March 31, 2016 and the system supplied by this source shall be free of any waterborne disease outbreak.

Sec. 19. Section 19-13-B102(k) of the Regulations of Connecticut State Agencies is amended to read as follows:

(k) **Variances and exemptions.** [Variances and Exemptions] Until March 31, 2016, variances and exemptions from the MCL for total coliforms [of subparagraph 19-13-B102 (e) (6) (B) of the Regulations of Connecticut State Agencies] in subsection (e)(6)(B) of this section may be granted by the department for systems that demonstrate to the satisfaction of the department that the violation of the total coliform MCL is due to a persistent growth of total coliforms in the distribution system rather than fecal or pathogenic contamination, a treatment lapse or deficiency, or a problem in the operation or maintenance of the distribution system. [The department shall use the following criteria to identify systems that could] To obtain a variance or exemption, a system shall submit an application to the department requesting a variance or exemption from the MCL for total coliforms in subsection (e)(6)(B) of this section. Such application shall be submitted in accordance with subsection (t) of this section and shall include documentation demonstrating that the system meets the criteria in subdivisions (1) through (9), inclusive, of this subsection and may operate under a variance without posing an unreasonable risk to health. [:]

(1) Over the past [thirty (30)] 30 days, water entering the distribution system is shown to:

(A) Be free from a fecal coliform or E. coli occurrence based on at least daily sampling;

(B) [contain] Contain less than [one (1)] 1 total coliform per [hundred (100)] 100 milliliters of influent water in at least [ninety five] 95 percent [(95%)] of all samples based on at least daily sampling;

(C) Comply with the total turbidity requirements of [Section 19-13-B102] subsection (j) of this section;

(D) Contain a continuous disinfection residual of at least 0.2 mg/l;

- (2) The system has had no waterborne disease outbreak while operated in its present configuration;
- (3) The system maintains biweekly contact with the department and local health departments to assess illness possibly attributable to microbial occurrence in the [public drinking water] system;
- (4) The system has evaluated, on a monthly basis, at least the number of samples specified in [Section 19-13-B102] subsection (e) of this section and has not had an E. coli-positive compliance sample within the last [six] 6 months, unless the system demonstrates to the department that the occurrence is not due to contamination entering the distribution system;
- (5) The system has undergone a sanitary survey conducted by [a party approved by] the department within the past [twelve (12)] 12 months;
- (6) The system has a cross connection control program acceptable to the department and performs an audit of the effectiveness program;
- (7) The system agrees to submit a biofilm control plan to the department within [twelve (12)] 12 months of the granting of the first request for a variance;
- (8) The system monitors general distribution system bacterial quality by conducting heterotrophic bacteria plate counts on at least a weekly basis at a minimum of [ten] 10 percent [(10%)] of the number of total coliform sites specified for that system size in [Section 19-13-B102] subsection (e) of this section; and
- (9) The system conducts daily monitoring at distribution system sites approved by the department and maintains a detectable disinfectant residual at a minimum of [ninety five] 95 percent [(95%)] of those points and a heterotrophic plate count of less than [five hundred (500)] 500 colonies per ml at sites without a disinfectant residual.

Sec. 20. Section 19-13-B102(l)(1)(U) of the Regulations of Connecticut State Agencies is amended to read as follows:

- (U) In addition to the requirements of subparagraphs (A) through (T), inclusive, of this subdivision, a ground water system regulated under subsections (e)(7)(E), (e)(12) and (j)(14) of this section shall retain on its premises or at a convenient location near its premises the following records:
 - (i) Documentation of corrective actions taken under subsections (e)(7)(E)(iv) and (j)(14) of this section shall be kept for not less than 10 years.
 - (ii) Documentation of notice to the public as required under subsection (i)(5)(F) of this section shall be kept for not less than 3 years.

- (iii) Records of decisions under subsection (e)(12)(C)(v)(II) of this section and records of invalidation of fecal indicator-positive ground water source samples under subsection (e)(12)(F) of this section shall be kept for not less than 5 years.
- (iv) For consecutive systems, documentation of notification provided to the wholesale system(s) under subsection (e)(12)(C)(iv)(I) of this section of total-coliform-positive samples that were not invalidated under subsection (e)(7)(F) of this section until March 31, 2016, or under subsection (x)(3) of this section beginning on April 1, 2016, shall be kept for not less than 5 years.
- (v) For systems, including wholesale systems, that are required to perform compliance monitoring under subsection (j)(14)(B) of this section, the following record-keeping requirements shall apply:
 - (I) Records of the system's required minimum RDC stated in the department's approval issued pursuant to subsection (j)(14)(B)(i) or (ii) of this section and the required minimum CT value, if the department stated a required minimum CT value in the department's approval issued pursuant to subsection (j)(14)(B)(i) or (ii) of this section, shall be kept for not less than 10 years.
 - (II) Records of the lowest daily RDC, and records of the date and duration of any failure to maintain the system's required minimum RDC or the system's required minimum CT value, or both, for a period of more than 4 hours shall be kept for not less than 5 years.
 - (III) Records of department-approved compliance requirements for a department-approved alternative treatment and records of the date and duration of any failure to meet the membrane operating, membrane integrity, or alternative treatment operating requirements for more than 4 hours shall be kept for not less than 5 years.

Sec. 21. Section 19-13-B102 of the Regulations of Connecticut State Agencies is amended by adding subsection (x) as follows:

(x) Revised Total Coliform Rule.

(1) General.

- (A) The provisions of this subsection include both MCL and treatment technique requirements.
- (B) Applicability. Unless otherwise indicated, the provisions of this subsection apply to all systems.
- (C) Compliance date. Systems shall comply with the provisions of this subsection beginning on April 1, 2016, unless otherwise specified in this subsection.
- (D) Violations of this subsection. A systems failure to comply with the requirements in this subdivision and in subdivisions (2) through subdivision (11) of this subsection is a violation of this subsection.

(2) Analytical methods and laboratory certification.

(A) Analytical methodology. Systems shall:

- (i) Use 100 ml as the standard sample volume required for analysis, regardless of analytical method used;
- (ii) Only determine the presence or absence of total coliforms and *E. coli*. A determination of density is not required;
- (iii) Not exceed 30 hours from the time of sample collection to initiation of test medium incubation. The department recommends, but does not require, that systems hold samples below 10 degrees Celsius during transit.
- (iv) Add sufficient sodium thiosulfate ($\text{Na}_2 \text{S}_2 \text{O}_3$) to the sample bottle before sterilization to neutralize any residual chlorine in the water sample, if water having residual chlorine, measured as free, combined or total chlorine, is to be analyzed; and
- (v) Conduct total coliform and *E. coli* analyses in accordance with 1 of the analytical methods specified by EPA in 40 CFR 141.852(a)(5), as amended from time to time, and 40 CFR 141.852(c), as amended from time to time, or 1 of the alternative methods listed in 40 CFR 141, Subpart C, Appendix A, as amended from time to time.

(B) Laboratory certification. Systems shall have all compliance samples required to be analyzed under this subsection analyzed by a laboratory certified by EPA or registered by the department pursuant to section 19a-29a of the Connecticut General Statutes to analyze drinking water samples. The laboratory used by the system shall be certified or have a certificate of testing, or both, for each method and associated contaminant or contaminants used for compliance monitoring analyses under this subsection.

(3) General monitoring requirements for all systems.

(A) Sample siting plans. Systems shall develop not later than July 1, 2015, a sample siting plan that identifies sampling sites that are representative of water throughout the distribution system and that contains a sample collection schedule in accordance with clause (iv) of this subparagraph. The system shall provide to the department at the system's sanitary survey conducted by the department pursuant to subsection (e)(7)(E) of this section such sample siting plan, including the sample collection schedule, for review by the department. Such review by the department shall ensure the system's sampling siting plan, including the sample collection schedule, is in compliance with the requirements of this subsection. The department may request a system to provide additional information necessary to aid the department in its review of the sample siting plan, and may modify the sample siting plan, including the sample collection schedule, if the department concludes that such modification is necessary to ensure that the system's sampling sites are representative of water throughout the distribution system.

- (i) The system's sample siting plan shall identify routine and repeat sample sites and any sampling points necessary to meet the requirements of subsections (e)(12) and (j)(14) of this section.

- (ii) Sampling required by subdivisions (4) through (8), inclusive, of this subsection may take place at a consumer's premise, dedicated sampling station, or other designated compliance sampling location.
- (iii) Systems shall collect total coliform samples in accordance with the system's sample siting plan, including any modifications required by the department.
- (iv) Systems shall collect samples at regular time intervals throughout the month, except that ground water systems that serve 4,900 or fewer people may collect all required samples on a single day if the samples are taken from different sites. The system shall include such sample collection schedule in the sample siting plan developed and reviewed pursuant this subparagraph.
- (v) Systems shall take at least the minimum number of required samples even if the system has had an E. coli MCL violation or has exceeded the coliform treatment technique triggers in subdivision (9)(A) of this subsection before the end of the monitoring compliance period.
- (vi) A system may conduct more compliance monitoring than is required by this subsection to investigate potential problems in the distribution system and use monitoring as a tool to assist in uncovering problems. A system may take more than the minimum number of required routine samples and shall include the results in calculating whether any coliform treatment technique triggers specified in subdivision (9)(A) of this subsection have been exceeded only if the samples are taken in accordance with the system's sample siting plan and are representative of water throughout the distribution system. To include the results of the samples taken in addition to the minimum number of required routine samples in calculating whether any coliform treatment technique triggers specified in subdivision (9)(A) of this subsection have been exceeded, the system shall submit an application to the department requesting to do so in accordance with subsection (t) of this section. The system shall not include the results of the samples taken in addition to the minimum number of required routine samples in calculating whether any coliform treatment technique triggers specified in subdivision (9)(A) of this subsection have been exceeded unless the system has department approval to do so.
- (vii) Repeat samples. Systems shall identify in the system's sample siting plan monitoring locations for repeat sampling. Unless the system satisfies the requirements of subclause (I) or (II) of this clause, the system shall collect at least 1 repeat sample from the sampling tap where the original total coliform-positive sample was taken, and at least 1 repeat sample at a tap within 5 service connections upstream and at least 1 repeat sample at a tap within 5 service connections downstream of the original sampling site. If a total coliform-positive sample was taken at the end of the distribution system, or 1 service connection away from the end of the distribution system, the system shall still take all required repeat samples, but shall collect such repeat samples at alternative fixed locations identified in the system's sample siting plan under this subparagraph. Except as provided for in subclause (II) of this clause, systems required to conduct triggered source water monitoring under subsection (e)(12)(C) of this section shall take ground water source samples in addition to repeat samples required under this subsection.

- (I) A system may submit, as part of the system's sample siting plan under this subparagraph, alternative fixed locations for repeat sampling. If the system submits alternative fixed locations for repeat sampling as part of the system's sample siting plan under this subparagraph, such system shall include documentation demonstrating that the alternative monitoring locations are representative of a pathway for contamination of the distribution system and that the sample siting plan remains representative of the water quality in the distribution system.
- (II) Ground water systems serving 1,000 or fewer people may include, as part of the system's sample siting plan under this subparagraph, repeat sampling locations that differentiate between potential source water and distribution system contamination, such as by sampling at entry points to the distribution system. A ground water system with a single well required to conduct triggered source water monitoring under subsection (e)(12)(C) of this section may submit, as part of the system's sample siting plan under this subparagraph, a request to take 1 of the system's repeat samples at the monitoring location required for triggered source water monitoring under subsection (e)(12)(C) of the section, if the system demonstrates that the sample siting plan remains representative of water quality in the distribution system. If the system includes in the system's sample siting plan the monitoring location required for triggered source water monitoring under subsection (e)(12)(C) of the section, the system may use the result of a sample taken at the monitoring location to meet the monitoring requirements in both subsection (e)(12)(C) of this section and this subsection. Repeat samples taken at the monitoring location required for triggered source water monitoring under subsection (e)(12)(C) of the section are subject to subclauses (II)(a) through (c), inclusive, of this clause.
- (a) If a repeat sample taken at the monitoring location required for triggered source water monitoring under subsection (e)(12)(C) of the section is E. coli-positive, the system has violated the E. coli MCL and shall also comply with subsection (e)(12)(C) of this section, in addition to this subsection. If a system takes more than 1 repeat sample at the monitoring location required for triggered source water monitoring under subsection (e)(12)(C) of the section, the system may reduce the number of additional source water samples required under subsection (e)(12)(C)(iii) of this section by the number of repeat samples taken at that location that were not E. coli-positive.
- (b) If a system takes more than 1 repeat sample at the monitoring location required for triggered source water monitoring under subsection (e)(12)(C) of this section, and more than 1 repeat sample is E. coli-positive, the system has violated the E. coli MCL and shall also comply with subsection (j)(14)(A) of this section.
- (c) If all repeat samples taken at the monitoring location required for triggered source water monitoring are E. coli-negative and a repeat sample taken at a monitoring location other than the 1 required for triggered source water monitoring under subsection (e)(12)(C) of this section is E. coli-positive, the system has violated the E. coli MCL, but is not required to comply with subsection (e)(12)(C)(iii) of this section.

- (B) Special purpose samples. Systems shall not use special purpose samples, such as those taken to determine whether disinfection practices are sufficient following pipe placement, replacement, or repair, to determine whether any coliform treatment technique triggers specified in subdivision (9)(A) of this subsection have been exceeded. Repeat samples taken pursuant to subdivision (8) of this subsection are not considered special purpose samples, and shall be used to determine whether any coliform treatment technique triggers specified in subdivision (9)(A) of this subsection have been exceeded.
- (C) Invalidation of total coliform samples. A total coliform-positive sample invalidated under this subparagraph does not count toward meeting the minimum monitoring requirements of this subsection.
- (i) Unless otherwise stated, to obtain approval to invalidate a total coliform-positive sample, a system shall submit an application to the department requesting that the department invalidate the total coliform-positive sample in accordance with subsection (t) of this section. Such application shall include the reason or reasons for such invalidation and documentation demonstrating such reason or reasons. The department may invalidate a total coliform-positive sample if 1 or more of the conditions of subclause (I), (II), or (III) of this clause are satisfied.
- (I) The system submits to the department with the system's application submitted pursuant to this clause a written notice from the laboratory stating that improper sample analysis occurred and that such improper sample analysis caused the total coliform-positive result.
- (II) The department, on the basis of the results of repeat samples collected as required under subdivision (8)(A) of this subsection, determines that the total coliform-positive sample resulted from a domestic or other non-distribution system plumbing problem. To invalidate a total coliform-positive sample under this subclause, the system shall include with the system's application submitted pursuant to this clause, documentation demonstrating that all repeat samples collected at the same tap as the original total coliform-positive sample are also total coliform-positive, and all repeat samples collected at a location other than the original tap are total coliform-negative. The department shall not invalidate a sample on the basis of repeat sample results unless all repeat samples collected at the same tap as the original total coliform-positive sample are also total coliform-positive, and all repeat samples collected at a location other than the original tap are total coliform-negative.
- (III) The department has substantial grounds to believe that a total coliform-positive result is due to a circumstance or condition that does not reflect water quality in the distribution system. In this case, the system shall still collect all repeat samples required under subdivision (8)(A) of this subsection, and use the samples collected to determine whether any coliform treatment technique triggers specified in subdivision (9)(A) of this subsection have been exceeded. To invalidate a total coliform-positive sample under this subclause, the system shall include with the system's application submitted pursuant to this clause, documentation demonstrating that the total coliform-positive result is due to a circumstance or condition that does not reflect water quality in the distribution system. The

documentation submitted shall also state the specific cause of the total coliform-positive sample, and what action the system has taken, or will take, to correct this problem. The department may not invalidate a total coliform-positive sample under this subclause solely on the grounds that all repeat samples are total coliform-negative.

- (ii) A laboratory shall invalidate a total coliform sample, unless total coliforms are detected, if the sample produces a turbid culture in the absence of gas production using an analytical method where gas formation is examined, such as the Multiple-Tube Fermentation Technique, produces a turbid culture in the absence of an acid reaction in the Presence-Absence (P-A) Coliform Test, or exhibits confluent growth or produces colonies too numerous to count with an analytical method using a membrane filter, such as the Membrane Filter Technique. If a laboratory invalidates a sample because of such interference, the system shall collect another sample from the same location as the original sample not later than 24 hours after being notified by the laboratory of the interference problem, and shall have such sample analyzed for the presence of total coliforms. The system shall continue to re-sample not later than 24 hours after the most recent notification by the laboratory of an interference problem and have the samples analyzed until the system obtains a valid result. The department may extend the 24-hour time limit if the system cannot collect another sample from the same location as the original sample not later than 24 hours after being notified by the laboratory of the interference problem due to circumstances beyond the system's control. A system shall submit an application to the department in accordance with subsection (t) of this section requesting an extension beyond the 24-hour time limit and specifying the circumstances beyond the system's control that prevented the system from collecting another sample from the same location as the original sample and having the sample analyzed not later than 24 hours after notification by the laboratory of the interference problem. The system shall file such application with the department not later than 24 hours after being notified by the laboratory of the interference problem. If the department's office is closed, the ground water system shall file such application with the department before the end of the next business day.
- (4) Routine monitoring requirements for non-community water systems using only ground water that is not under the direct influence of surface water and serving 1,000 or fewer people.

(A) General.

- (i) The provisions of this subdivision apply to non-community water systems using only ground water that is not under the direct influence of surface water and serving 1,000 or fewer people.
- (ii) Following any total coliform-positive sample taken under the provisions of this subdivision, such non-community water system shall comply with the repeat monitoring requirements and E. coli analytical requirements in subdivision (8) of this subsection.
- (iii) Once such non-community water system has completed all monitoring required by this subdivision and subdivision (8) of this subsection for a calendar month, such noncommunity water system shall determine whether any coliform treatment technique triggers specified in subdivision (9)(A) of this subsection have been

exceeded. If any coliform treatment technique triggers in subdivision (9)(A) of this subsection has been exceeded, such non-community water system shall complete assessments as required by subdivision (9) of this subsection.

- (iv) For the purpose of determining eligibility for remaining on or qualifying for quarterly monitoring under the provisions of subparagraphs (F)(iv) and (G)(2), respectively, of this subdivision for TNCs using only ground water that is not under the direct influence of surface water and serving 1,000 or fewer people, such TNC may submit an application to the department requesting that the department not count monitoring violations under subdivision (10)(C)(i) of this subsection if such TNC collected the missed sample not later than the end of the monitoring period after the monitoring period in which the sample was missed. Such application shall be submitted to the department in accordance with subsection (t) of this section. If the department approves the application, the TNC using only ground water that is not under the direct influence of surface water and serving 1,000 or fewer people shall collect the make-up sample in a different week than the routine sample for that monitoring period and shall collect the sample as soon as possible during the monitoring period. The department's approval of the application under this clause does not constitute the department's approval under subparagraph (H) of this subdivision, nor does such approval affect the provisions of subdivisions (10)(C)(i) and (11)(A)(iv) of this subsection.

- (B) Monitoring frequency for total coliforms. Such non-community water system shall monitor each calendar quarter that such non-community water system provides water to the public, except for such non-community water systems that are seasonal systems or as provided under subparagraphs (C) through (H), inclusive, and (J) of this subdivision. Such non-community water systems that are seasonal systems shall meet the monitoring requirements of subparagraph (I) of this subdivision.

- (C) Transition to this subsection.

- (i) Such non-community water systems, including such non-community water systems that are seasonal systems, shall continue to monitor according to the total coliform monitoring schedules under subsection (e)(7) of this section that were in effect on March 31, 2016, unless any of the conditions for increased monitoring in subparagraph (F) of this subdivision are triggered on or after April 1, 2016, or unless otherwise directed by the department.
- (ii) Beginning on April 1, 2016, the department shall perform a special monitoring evaluation during each sanitary survey conducted pursuant to subsection (e)(7)(E) of this section to review the status of such non-community water system, including the distribution system, to determine whether such non-community water system is on an appropriate monitoring schedule. After the department has performed a special monitoring evaluation at such non-community water system, the department may modify such non-community water system's monitoring schedule, as necessary, or the department may allow such non-community water system to stay on such non-community water system's existing monitoring schedule, consistent with the provisions of this subdivision. The department may not allow such non-community water system to begin less frequent monitoring under the special monitoring evaluation unless such non-community water system has already met the applicable criteria for less frequent monitoring in this subdivision and has received department

approval to do so pursuant to this subdivision. For such non-community water systems that are seasonal systems and that are on quarterly monitoring, the special monitoring evaluation shall include review of the sample siting plan under subdivision (3)(A) of this section of such non-community water system that is a seasonal system, which shall designate the time period or periods for monitoring based on site-specific considerations, such as monitoring during periods of highest demand or highest vulnerability to contamination. Such non-community water system that is a seasonal system shall collect compliance samples during these time periods.

- (D) Increased monitoring requirements for such non-community water system on quarterly monitoring. Such non-community water system on quarterly monitoring that experiences any of the events identified in clauses (i) through (iv), inclusive, of this subparagraph shall begin monthly monitoring the month following the event. Such non-community water system shall continue monthly monitoring until the requirements in subparagraph (E) of this subdivision for quarterly monitoring are met. Such non-community water system on monthly monitoring for reasons other than those identified in clauses (i) through (iv), inclusive, of this subparagraph is not considered to be on increased monitoring for the purposes of subparagraphs (E) of this subdivision. Such non-community water system:
 - (i) Triggers a level 2 assessment or two level 1 assessments under the provisions of subdivision (9) of this subsection in a rolling 12-month period;
 - (ii) Has an E. coli MCL violation;
 - (iii) Has a coliform treatment technique violation; or
 - (iv) Has two monitoring violations under this subsection or has 1 monitoring violation under this subsection and 1 level 1 assessment under the provisions of subdivision (9) of this subsection in a rolling 12-month period for such non-community water system on quarterly monitoring.
- (E) Requirements for returning to quarterly monitoring. Such non-community water system on monthly monitoring triggered under subparagraph (D) of this subdivision that meets the criteria in clauses (i) and (ii) of this subparagraph may submit an application to the department requesting approval to reduce such non-community water system's monitoring frequency to quarterly monitoring. Such application shall include documentation demonstrating that such non-community water system meets the criteria in clauses (i) and (ii) of this subparagraph and shall be submitted in accordance with subsection (t) of this section.
 - (i) Within the last 12 months, such non-community water system shall have a completed sanitary survey, a site visit by the department or a voluntary level 2 assessment conducted by a level 2 assessor or the department, be free of sanitary defects, and have a source or sources of supply that are protected and that meet the separating distance requirements in subsection (e)(12)(D)(ii)(I) of this section; and
 - (ii) Such non-community water system shall have a clean compliance history for a minimum of 12 months.
- (F) Such non-community water systems that are seasonal systems.

- (i) Beginning on April 1, 2016, all such non-community water systems that are seasonal systems shall demonstrate completion of a start-up procedure that complies with the criteria in subclauses (I) through (IV), inclusive, of this clause prior to serving water to the public each time such non-community water systems that are seasonal systems start up the system. Prior to starting up and shutting down the system, such non-community water system that is a seasonal system shall submit to the department a notification of such starting up and shutting down in accordance with subsection (t) of this section. The notification submitted by such non-community water system that is a seasonal system prior to starting up the system shall include documentation demonstrating that such non-community water system that is a seasonal system completed a start-up procedure that complies with the criteria in subclauses (I) through (IV), inclusive, of this clause. The start-up procedure of such non-community water system that is a seasonal system shall include, but not be limited to, the following elements:
- (I) Inspection of such non-community water system that is a seasonal system, including inspection of the sources of supply, pump house or houses, and storage tanks of such non-community water system that is a seasonal system, and making of necessary repairs;
 - (II) Flushing of the distribution system;
 - (III) Cleaning and disinfection of all storage facilities, including all chlorine contact chambers and storage tanks;
 - (IV) Shock chlorination of the ground water well or wells, if any, and the distribution system; and
 - (V) Performance of sampling and testing of the water of such non-community water system that is a seasonal system before serving it to the public to ensure the distribution of safe water. Such water shall be tested for total coliform bacteria and physical parameters.
- (ii) Such non-community water system that is a seasonal system shall monitor every month that such non-community water system that is a seasonal system is in operation unless such non-community water system that is a seasonal system obtains approval from the department to monitor quarterly beginning on April 1, 2016, because such non-community water system that is a seasonal system meets the criteria in subclauses (I) and (II) of this clause, except as provided under subparagraph (C) of this subdivision. To obtain such approval, such non-community water system that is a seasonal system shall submit an application to the department in accordance with subsection (t) of this section. Such application shall include documentation demonstrating that such non-community water system that is a seasonal system meets the criteria in subclauses (I) and (II) of this clause, except as provided under subparagraph (C) of this subdivision.
- (I) The sampling schedule in the sample siting plan under subdivision (3)(A) of this subsection of such non-community water system that is a seasonal system monitoring less frequently than monthly shall designate the time period for

monitoring based on site-specific considerations, such as during periods of highest demand or highest vulnerability to contamination. Such non-community water system that is a seasonal system shall collect compliance samples during this time period.

(II) Such non-community water system that is a seasonal system shall meet the criteria in subparagraph (E) of this subdivision.

(iii) If the entire distribution system of such non-community water system that is a seasonal system remains pressurized during the entire period such non-community water system that is a seasonal system is not operating, such non-community water system that is a seasonal system may submit an application to the department requesting an exemption from some or all of the requirements for such non-community water systems that are a seasonal systems. Such application shall include documentation demonstrating that the entire distribution system of such non-community water system that is a seasonal system remains pressurized during the entire period that such non-community water system that is a seasonal system is not operating and shall be submitted in accordance with subsection (t) of this section. Even if the department approves the application for an exemption of such non-community water system that is a seasonal system, if such non-community water system that is a seasonal system monitors less frequently than monthly, such non-community water system that is a seasonal system shall still monitor during the vulnerable period designated by the department in such approval.

(G) Additional routine monitoring the month following a total coliform-positive sample. Such non-community water system collecting samples on a quarterly frequency shall conduct additional routine monitoring the month following 1 or more total coliform-positive samples, with or without a level 1 treatment technique trigger. Such non-community water system shall collect at least 3 routine samples during the next month, unless the department approves a waiver of this requirement because such non-community water system met the conditions in clause (i), (ii), or (iii) of this subparagraph. To obtain a waiver, such non-community water system shall submit an application to the department in accordance with subsection (t) of this section. Such application shall include documentation demonstrating that such non-community water system has met the conditions in clause (i), (ii), or (iii) of this subparagraph. Such non-community water system may either collect samples at regular time intervals throughout the month or may collect all required routine samples on a single day if samples are taken from different sites. Such non-community water system shall use the results of additional routine samples in coliform treatment technique trigger calculations under subdivision (9)(A) of this subsection.

(i) The department, if the department elects to perform it, or a level 2 assessor performs a site visit before the end of the next month in which such non-community water system provides water to the public. Although a sanitary survey need not be performed, the site visit shall be sufficiently detailed to allow the department to determine whether additional monitoring or any corrective action, or both, is needed. A level 2 assessor that is an employee of such non-community water system is prohibited from performing the site visit.

- (ii) Such non-community water system has corrected the problem or will correct the problem that caused the total coliform-positive sample, or both, before the end of the next month in which such non-community water system serves water to the public. An application for a waiver shall include documentation demonstrating the specific cause of the total coliform-positive sample and that such non-community water system has corrected the problem or will correct the problem before the end of the next month in which such non-community water system serves water to the public, or both, including what action such non-community water system has taken or will take to correct this problem, or both.
 - (iii) The department may not waive the requirement to collect 3 additional routine samples the next month in which such non-community water system provides water to the public solely on the grounds that all repeat samples are total coliform-negative. If such non-community water system has corrected the contamination problem before such non-community water system takes the set of repeat samples required in subdivision (8) of this subsection, and all repeat samples were total coliform-negative, such non-community water system may submit an application to the department requesting approval to waive the requirement for additional routine monitoring the next month. An application for a waiver shall include documentation demonstrating that such non-community water system has corrected the contamination problem before such non-community water system took the set of repeat samples required in subdivision (8) of this subsection, and all repeat samples were total coliform-negative.
- (5) Routine monitoring requirements for CWSs serving 1,000 or fewer people using only ground water.
- (A) General.
- (i) The provisions of this subdivision apply to CWSs using only ground water, except ground water under the direct influence of surface water, and serving 1,000 or fewer people.
 - (ii) Following any total coliform-positive sample taken under the provisions of this subdivision, such CWS shall comply with the repeat monitoring requirements and E. coli analytical requirements in subdivision (8) of this subsection.
 - (iii) Once such CWS has completed all monitoring required by this subdivision and subdivision (8) of this subsection for a calendar month, such CWS shall determine whether any coliform treatment technique triggers specified in subdivision (9)(A) of this subsection have been exceeded. If any coliform treatment technique triggers in subdivision (9)(A) of this subsection have been exceeded, such CWS shall complete assessments as required by subdivision (9) of this subsection.
- (B) Monitoring frequency for total coliforms. The monitoring frequency for total coliforms is 1 sample per month, except as provided for under subparagraphs (C) through (F) of this subdivision.
- (C) Transition to this subsection.

- (i) All such CWSs shall continue to monitor according to the total coliform monitoring schedules under subsection (e)(7) of this section that were in effect on March 31, 2016, unless any of the conditions in subparagraph (E) of this subdivision are triggered on or after April 1, 2016, or unless otherwise directed by the department.
- (ii) Beginning on April 1, 2016, the department shall perform a special monitoring evaluation during each sanitary survey to review the status of such CWS, including the distribution system, to determine whether such CWS is on an appropriate monitoring schedule. After the department has performed the special monitoring evaluation during each sanitary survey, the department may modify such CWS's monitoring schedule, as necessary, or the department may allow such CWS to stay on such CWS's existing monitoring schedule, consistent with the provisions of this subdivision. The department may not allow such CWS to begin less frequent monitoring under the special monitoring evaluation unless such CWS has already met the applicable criteria for less frequent monitoring in this subdivision.

(D) Criteria for reduced monitoring.

- (i) Such CWS that is in compliance with the operator certification requirements of sections 25-32-7a through 25-32-14, inclusive, of the Regulations of Connecticut State Agencies and meets the criteria in subclauses (I) through (III), inclusive, of this clause may submit an application to the department requesting approval to reduce the monitoring frequency from monthly monitoring to not less than quarterly monitoring. Such application shall include documentation demonstrating that such CWS is in compliance with the operator certification requirements of sections 25-32-7a through 25-32-14, inclusive, of the Regulations of Connecticut State Agencies and that such CWS meets the criteria in subclauses (I) through (III), inclusive, of this clause. Such CWS that fails to employ, contract with or otherwise utilize a chief operator for more than 24 hours shall return to monthly monitoring the month following the noncompliance.

(I) Such CWS has a clean compliance history for a minimum of 12 months.

(II) The most recent sanitary survey conducted by the department pursuant to subsection (e)(7)(E) of this section shows such CWS is free of sanitary defects, or such CWS has a department-approved plan and schedule to correct them and is in compliance with the department-approved plan and schedule pursuant to subdivisions (9)(B)(iii) and (iv) of this subsection, and such CWS has a source or sources of supply that are constructed and protected and that meet the separating distances in subsection (e)(12)(D)(ii)(I) of this section.

(III) Such CWS meets at least 1 of the following criteria:

- (a) The department performs an annual site visit that is equivalent to a level 2 assessment or the department, if the department elects to perform it, or a level 2 assessor, performs an annual level 2 assessment, and such CWS corrects all identified sanitary defects, or such CWS has a department-approved plan and schedule to correct them and such CWS is in compliance with the department-approved plan and schedule.

- (b) Such CWS has all of such CWS's backflow prevention devices tested in accordance with section 19-13-B38a of the Regulations of Connecticut State Agencies and all consumer premises inspected for cross connections in accordance with subsections (f)(2) and (3) of this section.
 - (c) Such CWS has installed effective and reliable treatment of at least a 4-log removal or inactivation of viruses for each of such CWS's ground water sources pursuant to subsection (j)(14)(B)(iii) of this section.
- (E) Return to routine monthly monitoring requirements. Such CWS on quarterly monitoring that experiences any of the events in clauses (i) through (iv), inclusive, of this subparagraph shall begin monthly monitoring the month following the event. Such CWS shall continue monthly monitoring until such CWS meets the reduced monitoring requirements in subparagraph (D) of this subdivision.
- (i) Such CWS triggers a level 2 assessment or two level 1 assessments in a rolling 12-month period.
 - (ii) Such CWS has an E. coli MCL violation.
 - (iii) Such CWS has a coliform treatment technique violation.
 - (iv) Such CWS has two monitoring violations under this subsection in a rolling 12-month period.
- (F) Additional routine monitoring the month following a total coliform-positive sample. Such CWS collecting samples on a quarterly frequency shall conduct additional routine monitoring the month following 1 or more total coliform-positive samples, with or without a level 1 treatment technique trigger. Such CWS shall collect at least 3 routine samples during the next month, except that the department may waive this requirement if 1 of the conditions in clause (i), (ii), or (iii) of this subparagraph is met. To obtain a waiver, such CWS shall submit an application to the department in accordance with subsection (t) of this section. Such application shall include documentation demonstrating that such CWS has met 1 of the conditions in clause (i), (ii), or (iii) of this subparagraph for which the department may grant a waiver. Such CWS may either collect samples at regular time intervals throughout the month or may collect all required routine samples on a single day if samples are taken from different sites. Such CWS shall use the results of additional routine samples in coliform treatment technique trigger calculations under subdivision (9)(A) of this subsection.
- (i) The department may waive the requirement to collect at least 3 routine samples during the next month in which such CWS provides water to the public if a level 2 assessor or the department, if the department elects to perform it, performs a site visit before the end of the next month in which such CWS provides water to the public. Although a sanitary survey need not be performed, the site visit shall be sufficiently detailed to allow the department to determine whether additional monitoring or any corrective action, or both, is needed.
 - (ii) The department may waive the requirement to collect at least 3 routine samples during the next month in which such CWS provides water to the public if the department has

determined the reason or reasons that such CWS's sample was total coliform-positive and has established that such CWS has corrected the problem or will correct the problem before the end of the next month in which such CWS serves water to the public.

- (iii) The department may not waive the requirement to collect 3 additional routine samples the next month in which such CWS provides water to the public solely on the grounds that all repeat samples are total coliform-negative. If the department determines that such CWS has corrected the contamination problem before such CWS takes the set of repeat samples required in subdivision (8) of this subsection, and all repeat samples were total coliform-negative, the department may waive the requirement for additional routine monitoring the next month.

(6) Routine monitoring requirements for Subpart H systems serving 1,000 or fewer people.

(A) General.

- (i) The provisions of this subdivision apply to Subpart H systems serving 1,000 or fewer people.
- (ii) Following any total coliform-positive sample taken under the provisions of this subdivision, such Subpart H system shall comply with the repeat monitoring requirements and E. coli analytical requirements in subdivision (8) of this subsection.
- (iii) Once such Subpart H system has completed all monitoring required by this subdivision and subdivision (8) of this subsection for a calendar month, such Subpart H system shall determine whether any coliform treatment technique triggers specified in subdivision (9)(A) of this subsection have been exceeded. If any coliform treatment technique triggers in subdivision (9)(A) of this subsection have been exceeded, such Subpart H system shall complete assessments as required pursuant to subdivision (9) of this subsection.
- (iv) Such Subpart H systems that are seasonal systems.
 - (I) Beginning on April 1, 2016, all such Subpart H systems that are seasonal systems shall demonstrate completion of a start-up procedure that complies with the criteria in subclauses (I)(1) through (4), inclusive, of this clause prior to serving water to the public each time such Subpart H system that is a seasonal system starts up the system. Prior to starting up and shutting down such Subpart H system that is a seasonal system, such Subpart H system that is a seasonal system shall submit to the department a notification of such starting up and shutting down in accordance with subsection (t) of this section. The notification submitted by such Subpart H system that is a seasonal system prior to starting up such Subpart H system that is a seasonal system shall include documentation demonstrating that such Subpart H system that is a seasonal system completed a start-up procedure that complies with the criteria in subclauses (I)(1) through (4), inclusive, of this clause. The start-up procedure of such Subpart H system that is a seasonal system shall include, but not be limited to, the following elements:

- (1) Inspection of such Subpart H system that is a seasonal system, including inspection of the sources of supply, pump house or houses, and storage tanks of such Subpart H system that is a seasonal system, and making of necessary repairs;
- (2) Flushing of the distribution system;
- (3) Cleaning and disinfection of all storage facilities, including all chlorine contact chambers and storage tanks, if necessary;
- (4) Shock chlorination of the ground water well or wells, if any, and the distribution system; and
- (5) Performance of sampling and testing of the water of such Subpart H system that is a seasonal system before serving it to the public to ensure the distribution of safe water. Such water shall be tested for total coliform bacteria and physical parameters.

(II) The department may exempt such Subpart H system that is a seasonal system from some or all of the requirements for such Subpart H systems that are seasonal systems if the entire distribution system remains pressurized during the entire period that such Subpart H system that is a seasonal system is not operating. To obtain such exemption, such Subpart H system that is a seasonal system shall submit an application to the department requesting such exemption in accordance with subsection (t) of this section. Such application shall include documentation demonstrating that the distribution system of such Subpart H system that is a seasonal system remains pressurized during the entire period that such Subpart H system that is a seasonal system is not operating.

(B) Routine monitoring frequency for total coliforms. Such Subpart H system, including such Subpart H system that is a consecutive system, shall monitor monthly. Such Subpart H system may not reduce monitoring.

(7) Routine monitoring requirements for systems serving more than 1,000 persons.

(A) General.

- (i) The provisions of this subdivision apply to systems serving more than 1,000 persons.
- (ii) Following any total coliform-positive sample taken under the provisions of this subdivision, such systems shall comply with the repeat monitoring requirements and E. coli analytical requirements in subdivision (8) of this subsection.
- (iii) As soon as such system has completed all monitoring required by this subdivision and subdivision (8) of this subsection for a calendar month, such system shall determine whether any coliform treatment technique triggers specified in subdivision (9)(A) of this subsection have been exceeded. If any coliform treatment technique triggers in subdivision (9)(A) of this subsection have been exceeded, such system shall complete assessments as required by subdivision (9) of this subsection.

(iv) Such systems that are seasonal systems.

(I) Beginning on April 1, 2016, all such systems that are seasonal systems shall demonstrate completion of a start-up procedure that complies with the criteria in subclauses (I)(1) through (4), inclusive, of this clause prior to serving water to the public each time such systems that are seasonal systems start up such systems that are seasonal systems. Prior to starting up and shutting down such systems that are seasonal systems, such systems that are seasonal systems shall submit to the department a notification of such starting up and shutting down in accordance with subsection (t) of this section. The notification submitted by such system that is a seasonal system prior to starting up such system that is a seasonal system shall include documentation demonstrating that such system completed a start-up procedure that complies with the criteria in subclauses (I)(1) through (4), inclusive, of this clause. Such systems that are seasonal systems shall have a start-up procedure that includes, but not be limited to, the following elements:

- (1) Inspection of such system that is a seasonal system, including inspection of the sources of supply, pump house or houses, and storage tanks of such system that is a seasonal system, and making of necessary repairs;
- (2) Flushing of the distribution system;
- (3) Cleaning and disinfection of all storage facilities, including all chlorine contact chambers and storage tanks, if necessary;
- (4) Shock chlorination of the ground water well or wells, if any, and the distribution system; and
- (5) Performance of sampling and testing of the water of such system that is a seasonal system before serving it to the public to ensure the distribution of safe water. Such water shall be tested for total coliform bacteria and physical parameters.

(II) The department may exempt any such system that is a seasonal system from some or all of the requirements for such systems that are seasonal systems if the entire distribution system remains pressurized during the entire period that such system that is seasonal system is not operating. To obtain such exemption, such system that is a seasonal system shall submit an application to the department requesting such exemption in accordance with subsection (t) of this section. Such application shall include documentation demonstrating that the distribution system of such system that is a seasonal system remains pressurized during the entire period that such system that is seasonal systems is not operating.

(B) Monitoring frequency for total coliforms. Such systems shall monitor in accordance with the monitoring frequencies for total coliforms in Table 7-W of this subparagraph. The monitoring frequency is based on the population served by such system.

TABLE 7-W. TOTAL COLIFORM MONITORING FREQUENCY FOR SUCH SYSTEMS.

POPULATION SERVED	MINIMUM NUMBER OF SAMPLES PER MONTH
1,001 to 2,500	2
2,501 to 3,300	3
3,301 to 4,100	4
4,101 to 4,900	5
4,901 to 5,800	6
5,801 to 6,700	7
6,701 to 7,600	8
7,601 to 8,500	9
8,501 to 12,900	10
12,901 to 17,200	15
17,201 to 21,500	20
21,501 to 25,000	25
25,001 to 33,000	30
33,001 to 41,000	40
41,001 to 50,000	50
50,001 to 59,000	60
59,001 to 70,000	70
70,001 to 83,000	80
83,001 to 96,000	90
96,001 to 130,000	100
130,001 to 220,000	120
220,001 to 320,000	150
320,001 to 450,000	180
450,001 to 600,000	210
600,001 to 780,000	240
780,001 to 970,000	270
970,001 to 1,230,000	300
1,230,001 to 1,520,000	330
1,520,001 to 1,850,000	360
1,850,001 to 2,270,000	390
2,270,001 to 3,020,000	420
3,020,001 to 3,960,000	450
3,960,001 or more	480

(C) A system that uses a GWUDI source and that does not provide and operate treatment pursuant to subsection (j)(2) of this section shall collect at least 1 total coliform sample near the first service connection each day the turbidity level of the source water, measured as specified in 40 CFR 141.74(b)(2), as amended from time to time, exceeds 1 NTU. When 1 or more turbidity measurements in any day exceed 1 NTU, the system shall collect this coliform sample within 24 hours of the first exceedance. The department may

extend the 24-hour time limit if the department determines, for logistical reasons beyond the system's control, the system cannot have the sample analyzed within 30 hours of collection. A system shall submit an application to the department in accordance with subsection (t) of this section requesting an extension beyond the 24-hour time limit, specifying the logistical problem that is beyond the system's control that will prevent the system from having the sample analyzed within 30 hours of collection. The system shall file such application with the department not later than 24 hours after being notified of that 1 or more turbidity measurements in any 1 day exceed 1 NTU. If the department's office is closed at that time, the system shall file such application with the department before the end of the next business day. The department shall not grant an extension of more than 72 hours, thereby approving the system to collect the repeat samples not later than 96 hours after notification of the total coliform-positive sample, unless the system in the system's application provides evidence that the system's contract laboratory is closed for the weekend or a holiday and the closure will prevent such system from collecting the repeat samples not later than 96 hours after being notified of the total coliform-positive sample. The system shall include sample results from this coliform monitoring in determining whether the coliform treatment technique trigger in subdivision (9) of this subsection has been exceeded.

- (D) Reduced monitoring. Such systems may not reduce monitoring, except for non-community water systems using only ground water, but not ground water under the direct influence of surface water, serving 1,000 or fewer people in some months and more than 1,000 persons in other months. In months when the non-community water system using only ground water, but not ground water under the direct influence of surface water, serves more than 1,000 persons, such non-community water system shall monitor at the frequency specified in subparagraphs (A) and (B) of this subdivision. In months when the non-community water system using only ground water, but not ground water under the direct influence of surface water, serves 1,000 or fewer people, such non-community water system may submit an application to the department requesting approval to reduce such non-community water system's monitoring frequency to a frequency allowed under subdivision (4) of this subsection for a similarly situated non-community water system using only ground water, but not ground water under the direct influence of surface water, that always serves 1,000 or fewer people, taking into account the provisions in subdivisions (4)(E) through (G), inclusive, of this subsection, in accordance with subsection (t) of this section.

(8) Repeat monitoring and E. coli requirements.

(A) Repeat monitoring.

- (i) If a sample taken under subdivisions (4) through (7), inclusive, of this subsection is total coliform-positive, the system shall collect a set of repeat samples within 24 hours of being notified by the laboratory of the positive result. The system shall collect no fewer than 3 repeat samples for each total coliform-positive sample found. The department may extend the 24-hour time limit if the system cannot collect the repeat samples sample within 24 hours due to circumstances beyond the system's control. A system shall submit an application to the department in accordance with subsection (t) of this section requesting an extension beyond the 24-hour time limit. Such application shall include documentation demonstrating the circumstances beyond the system's control that prevented the system from collecting the repeat samples within

24 hours of notification by the laboratory of the total coliform-positive sample. The system shall file such application with the department within 24 hours of being notified by the laboratory of the total coliform-positive sample. The department shall not grant an extension of more than 72 hours, thereby approving the system to collect the repeat samples within 96 hours of notification by the laboratory of the total coliform-positive sample, unless the system in the system's application provides evidence that the system's contract laboratory is closed for the weekend or a holiday and the closure will prevent such system from collecting the repeat samples within 96 hours of being notified by the laboratory of the total coliform-positive sample. A system is required to collect the repeat samples required pursuant to this clause and clauses (ii) and (iii) of this subparagraph.

- (ii) The system shall collect all repeat samples on the same day, except that a system with a single service connection may submit an application to the department requesting approval to collect the required set of repeat samples over a 3-day period or to collect a larger volume repeat sample or samples in 1 or more sample containers of any size, as long as the total volume collected is at least 300 ml. Such application shall be submitted to the department in accordance with subsection (t) of this section.
- (iii) The system shall collect an additional set of repeat samples in the manner specified in this clause and clauses (i) and (ii) of this subparagraph if 1 or more repeat samples in the current set of repeat samples is total coliform-positive. The system shall collect the additional set of repeat samples within 24 hours of being notified by the laboratory of the total coliform-positive result, unless the department approves an extension beyond the 24-hour time limit in accordance with clause (i) of this subparagraph. The system shall continue to collect additional sets of repeat samples until either total coliforms are not detected in 1 complete set of repeat samples or the system determines that a coliform treatment technique trigger in subdivision (9)(A) of this subsection has been exceeded as a result of a repeat sample being total coliform-positive and the system notifies the department immediately, but not later than the end of the next business day, by telephone. If a coliform treatment technique trigger in subdivision (9)(A) of this subsection is exceeded as a result of a routine sample being total coliform-positive, the system shall conduct only 1 round of repeat monitoring for each total coliform-positive routine sample.
- (iv) After a system collects a routine sample and before the system learns the results of the analysis of that sample, if the system collects another routine sample or samples from within 5 adjacent service connections of the initial sample, and the initial sample, after analysis, is found to contain total coliforms, then the system may count the subsequent sample or samples as a repeat sample instead of as a routine sample.
- (v) A system shall use the results of all routine and repeat samples taken under this subdivision and subdivisions (4) through (x)(7), inclusive, of this subsection not invalidated by the department under subdivision (3)(C) of this subsection to determine whether any coliform treatment technique triggers in subdivision (9)(A) of this subsection have been exceeded.

(B) E. coli testing.

- (i) If any routine or repeat sample is total coliform-positive, the system shall analyze that total coliform-positive culture medium to determine if *E. coli* are present. If *E. coli* are present, the system shall notify the department by telephone by the end of the day on which the system is notified by the laboratory of the positive test result.
 - (ii) If a system assumes that the total coliform-positive sample is *E. coli*-positive, the system may submit an application to the department requesting approval to forgo *E. coli* testing on a total coliform-positive sample in accordance with subsection (t) of this section. The system shall submit the application to the department by the end of the day on which the system is notified by the laboratory of the positive test result. If the department's office is closed, the system shall submit the application to the department before the end of the next business day. If the department approves the application, the provisions of subsection (e)(7)(I)(iii) of this section apply.
- (9) Coliform treatment technique triggers and assessment requirements for protection against potential contamination.
- (A) Treatment technique triggers. Systems shall conduct assessments in accordance with subparagraph (B) of this subdivision after exceeding treatment technique triggers in clauses (i) and (ii) of this subparagraph.
- (i) Level 1 treatment technique triggers. A system has exceeded the level 1 treatment technique trigger if:
 - (I) For systems taking 40 or more samples per month, the system exceeds 5 percent total coliform-positive samples in the same month.
 - (II) For systems taking fewer than 40 samples per month, the system has 2 or more total coliform-positive samples in the same month.
 - (III) The system fails to take every required repeat sample after any single total coliform-positive sample.
 - (ii) Level 2 treatment technique triggers. A system has exceeded a level 2 treatment technique trigger if the system has:
 - (I) An *E. coli* MCL violation, as specified in subdivision (10)(A) of this subsection.
 - (II) A system has exceeded two of the level 1 treatment technique triggers in clause (i) of this subparagraph within a rolling 12-month period. If the system has corrected the problem that caused the first of the two level 1 treatment technique triggers, the system may submit an application to the department requesting approval not to count the first of the two level 1 treatment technique triggers in accordance with subsection (t) of this section. Such application shall include the reason or reasons that the samples that caused the first level 1 treatment technique trigger were total coliform-positive and documentation demonstrating that the system has corrected the problem.
- (B) Requirements for assessments.

- (i) The system is responsible for ensuring that the level 1 and level 2 assessments are conducted in order to identify the possible presence of sanitary defects and defects in distribution system coliform monitoring practices.
- (ii) When conducting assessments, the system shall ensure that the person conducting the assessment evaluates the elements in subclauses (1) through (VII) of this clause. The person conducting the assessment, when evaluating the elements, shall take into consideration the system's size and complexity, as well as whether such assessment is a level 1 or level 2 assessment. A level 2 assessment shall provide a more detailed examination of the system, including the system's monitoring and operational practices, than does a level 1 assessment through the use of more comprehensive investigation and review of available information, additional internal and external resources, and other relevant practices.
 - (I) Review and identification of inadequacies in sample sites;
 - (II) The system's sampling protocol;
 - (III) The system's sample processing;
 - (IV) Atypical events that could affect distributed water quality or indicate that distributed water quality was impaired;
 - (V) Any changes in distribution system maintenance and operation that could affect distributed water quality, including water storage;
 - (VI) Source and treatment considerations that bear on distributed water quality, where appropriate; and
 - (VII) The system's existing water quality monitoring data.
- (iii) Level 1 assessments. A system shall complete a level 1 assessment consistent with the department's requirements as soon as practical after the system exceeds 1 of the treatment technique triggers in subparagraph (A)(i) of this subdivision. The department may elect to conduct the system's level 1 assessment. If the department elects to conduct the level 1 assessment, the department shall notify the system of the department's election not later than 5 days after the system exceeds 1 of the level 1 treatment technique triggers in subparagraph (A)(i) of this subdivision.
 - (I) The system, or the department if the department conducts the level 1 assessment, shall complete a level 1 assessment form provided by the department. In the completed level 1 assessment form, the system, or the department if the department conducts the level 1 assessment, shall describe any sanitary defects detected and corrective actions completed, and shall provide a proposed timetable for any corrective actions not already completed. If the system or the department did not detect any sanitary defects, the level 1 assessment form shall state that no sanitary defects were identified. Unless the department conducted the level 1 assessment, the system shall submit the completed level 1 assessment form to the department for approval in accordance with subsection (t) of this section within 30 days after the system learns that the system has exceeded 1 of the treatment

technique triggers in subparagraph (A)(i) of this subdivision. The level 1 assessment form shall include, but not be limited to, the following information pertaining to the system:

- (a) Name and address of the system;
- (b) Type of system;
- (c) PWSID of the system;
- (d) Date that the level 1 assessment was completed;
- (e) Results of the assessors evaluation of the elements in clauses (i)(I) through (VII) of this subparagraph;
- (f) Sanitary defect or defects identified;
- (g) Cause or causes of the sanitary defect or defects identified;
- (h) Any corrective actions completed; and
- (i) Any corrective action or actions to be completed by the system and the date by which the system shall complete such corrective action or actions.

(II) If the department determines that the level 1 assessment form submitted under subclause (I) of this clause is not sufficient, including any proposed timetable for any corrective actions not already completed, the department shall consult with the system to determine if revisions to such level 1 assessment form are required. If the department requires revisions after consultation, the system shall submit a revised level 1 assessment form to the department for approval not later than a department-specified date, which date shall not exceed 30 days from the date of the consultation, in accordance with subsection (t) of this section.

(III) The department shall review the level 1 assessment form or the revised level 1 assessment form, if the department required the system to revise the level 1 assessment form under subclause (II) of this clause, to determine if the system has identified a likely cause for the exceedance of a level 1 treatment technique trigger in subparagraph (A)(i) of this subdivision and, if so, provided documentation demonstrating that the system has corrected the problem, or has included a schedule acceptable to the department for correcting the problem. If the department determines that the system has identified a likely cause for the exceedance of the level 1 treatment technique trigger in subparagraph (A)(i) of this subdivision and has either provided documentation demonstrating that the system has corrected the problem or has included the corrective action or actions the system will take to address the sanitary defect or defects, and the proposed schedule for completing such actions, that are acceptable to the department for correcting the defect, then the department may approve the level 1 assessment form or revised level 1 assessment form. The level 1 assessment form or the revised level 1 assessment form approved by the department shall constitute the department-approved corrective-action plan and schedule.

(iv) Level 2 assessments. A system shall ensure that a level 2 assessment is completed by a level 2 assessor as soon as practical after the system exceeds 1 of the level 2 treatment technique triggers in subparagraph (A)(ii) of this subdivision. In the case of an E. coli MCL violation, the system shall also comply with any expedited actions or additional actions the department may require, which may include, but are not limited to the provision of an alternate source of water, notice to consumers to boil water to be used for human consumption, temporary disinfection of water in a manner prescribed by the department, or inactivation of a water source or sources. The department may elect to conduct the system's level 2 assessment. If the department elects to conduct the level 2 assessment, the department shall notify the system of the department's election not later than 5 days after the system exceeds 1 of the level 2 treatment technique triggers in subparagraph (A)(ii) of this subdivision. A level 2 assessor that is an employee of the system or that conducted the level 1 assessment that lead to the level 2 assessment, or both, is prohibited from performing the level 2 assessment.

(I) The level 2 assessor, or the department if the department conducts the level 2 assessment, shall complete a level 2 assessment form provided by the department. In the completed level 2 assessment form, the level 2 assessor, or the department if the department conducts the level 2 assessment, shall describe any sanitary defects detected and corrective actions completed, and shall provide a proposed timetable for any corrective actions not already completed. If the level 2 assessor or the department did not detect any sanitary defects, the level 2 assessment form shall state that no sanitary defects were identified. Unless the department conducted the level 2 assessment, the system shall submit the completed level 2 assessment form to the department for approval in accordance with subsection (t) of this section within 30 days after the system learns that the system has exceeded 1 of the treatment technique triggers in subparagraph (A)(ii) of this subdivision. The level 2 assessment form shall include, but not be limited to, the following information pertaining to the system:

(a) Name and address of the system;

(b) Type of system;

(c) PWSID of the system;

(d) Date that the level 2 assessment was completed;

(e) Sanitary defect or defects identified;

(f) Cause or causes of the sanitary defect or defects identified;

(g) Any corrective actions completed; and

(g) Any corrective action or actions to be completed by the system and the date by which the system shall complete such corrective action or actions.

(II) If the department determines that the level 2 assessment submitted under subclause (I) of this clause is not sufficient, including any proposed timetable for

any corrective actions not already completed, the department shall consult with the system to determine if revisions to such level 2 assessment are required. If the department requires revisions after consultation, the system shall submit a revised level 2 assessment form to the department for approval not later than a department-specified date, which date shall not exceed 30 days from the date of the consultation, in accordance with subsection (t) of this section.

(III) The department shall review the level 2 assessment form or the revised level 2 assessment form, if the department required the system to revise the level 2 assessment form under subclause (II) of this clause, to determine if the system has identified a likely cause for the level 2 treatment technique trigger and, if so, provided documentation demonstrating that the system has corrected the problem, or has included a schedule acceptable to the department for correcting the problem. If the department determines that the system has identified a likely cause for the exceedance of the level 2 treatment technique trigger in subparagraph (A)(ii) of this subdivision and has either provided documentation demonstrating that the system has corrected the problem or has included the corrective action or actions the system will take to address the sanitary defect or defects, and the proposed schedule for completing such actions, that are acceptable to the department for correcting the defect, then the department may approve the level 2 assessment form or revised level 2 assessment form, if the department required the system to revise the level 2 assessment form under subclause (II) of this clause. The level 2 assessment form or the revised level 2 assessment form, if the department required the system to revise the level 2 assessment form under subclause (II) of this clause, approved by the department shall constitute the department-approved corrective-action plan and schedule.

(C) Corrective action.

- (i) A system shall correct sanitary defects found through either a level 1 or 2 assessment conducted under subparagraph (B) of this subdivision. If the system has not completed the corrective action or actions before submitting the level 1 or 2 assessment form to the department, the system shall complete the corrective action or actions in accordance with the department-approved corrective-action plan and schedule under subparagraph (B)(iii)(III) or (B)(iv)(III) of this subdivision, respectively. After completing any corrective action in accordance with the department-approved corrective-action plan and schedule under subparagraph (B)(iii)(III) or (B)(iv)(III) of this subdivision, a system shall submit an application to the department in accordance with subsection (t) of this section requesting approval of the system's completion of such corrective action or actions. Such application shall include documentation demonstrating completion of such correction action or actions in accordance with the department-approved corrective-action plan and schedule under subparagraph (B)(iii)(III) or (B)(iv)(III) of this subdivision. Documentation demonstrating completion of a corrective action may include, but need not be limited to, digital photographs and engineering reports. Such application shall be submitted to the department not later than 30 days after completion of such corrective action or actions.
- (ii) Corrective actions a system may implement include, but are not limited to, well maintenance, well repair, disinfection of the system, flushing of the system, storage

facility maintenance, maintenance of adequate pressure, implementation or upgrade of a cross connection control and backflow prevention program, sampler training, addition or upgrade of on-line monitoring and control, addition of security measures, development and implementation of an operations plan, including routine inspection plans and emergency response plans, collection of additional follow-up samples, and the institution of boil water orders.

- (D) Consultation. At any time during the assessment or corrective action phase, the system may request a consultation with the department to determine the appropriate actions to be taken. Such request for consultation shall be submitted to the department in accordance with subsection (t) of this section. The system may consult with the department on all relevant information that may impact on the system's ability to comply with a requirement of this subsection, including the method of accomplishment, an appropriate timeframe, and other relevant information. The department may require the system at any time during the assessment or corrective action phase to consult with the department to determine the appropriate actions to be taken.

(10) Violations.

- (A) E. coli MCL violation. A system is in violation of the MCL for E. coli under this subsection when any of the conditions identified in clauses (i) through (iv), inclusive, of this subparagraph occur.

- (i) The system has an E. coli-positive repeat sample following a total coliform-positive routine sample.
- (ii) The system has a total coliform-positive repeat sample following an E. coli-positive routine sample.
- (iii) The system fails to take all required repeat samples following an E. coli-positive routine sample.
- (iv) The system fails to test for E. coli when any repeat sample tests positive for total coliform.

(B) Treatment technique violation.

- (i) A treatment technique violation occurs when a system exceeds a treatment technique trigger in subdivision (9)(A) of this subsection and then fails to conduct the required assessment or corrective actions within the timeframe specified in subdivisions (9)(B) and (C) of this subsection.
- (ii) A treatment technique violation occurs when a seasonal system fails to complete a start-up procedure that, if the seasonal system is a non-community water system using only ground water that is not under the direct influence of surface water that serves 1,000 or fewer people, a system with surface water or GWUDI sources that serves 1,000 or fewer people, or a system that serves more than 1,000 people, complies with the criteria in subdivisions (4)(I)(i)(I) through (IV), inclusive, (6)(A)(iv)(I)(1) through (4), inclusive, or (7)(A)(iv)(I)(1) through (4), inclusive, of this subsection, respectively, prior to serving water to the public.

(C) Monitoring violations.

- (i) Failure to take every required routine or additional routine sample in a compliance period as required by this subsection is a monitoring violation.
- (ii) Failure to analyze for E. coli following a total coliform-positive routine sample as required in this subsection is a monitoring violation.

(D) Reporting violations.

- (i) A system's failure to submit a monitoring report or completed assessment form required under this subsection to the department in a timely manner after a system properly conducts monitoring or assessment is a reporting violation.
- (ii) A system's failure to notify the department in a timely manner following an E. coli-positive sample as required by subdivision (8)(B)(i) of this subsection is a reporting violation.
- (iii) A seasonal system's failure to submit a notification to the department demonstrating that the seasonal system completed a start-up procedure that complies with the criteria in either subdivisions (4)(I)(i)(I) through (IV), inclusive, (6)(A)(iv)(I)(1) through (4), inclusive, or (7)(A)(iv)(I)(1) through (4), inclusive, of this subsection, depending on whether the seasonal system is a non-community water system using only ground water that is not under the direct influence of surface water that serves 1,000 or fewer people, a Subpart H system that serves 1,000 or fewer people, or a system that serves more than 1,000 people, respectively, is a reporting violation.

(11) Reporting and recordkeeping.

(A) Reporting.

- (i) E. coli.
 - (I) A system shall notify the department immediately, but not later than the end of the day, by telephone, after the system learns of an E. coli MCL violation and shall notify the public pursuant to the procedures for public notification in subsection (i) of this section.
 - (II) A system shall notify the department immediately, but not later than the end of the day, by telephone, after the system learns of an E. coli-positive routine sample.
- (ii) A system that has violated the treatment technique for coliforms in subdivision (9) of this subsection shall report the violation to the department immediately, but not later than the end of the next business day, by telephone, after the system learns of the violation, and shall notify the public pursuant to the procedures for public notification in subsection (i) of this section.
- (iii) A system required to conduct a level 1 or level 2 assessment under the provisions of subdivision (9) of this subsection shall submit the level 1 or level 2 assessment form

within 30 days of such level 1 or level 2 assessment, respectively. The system shall notify the department in accordance with subdivision (9)(C) of this subsection when each scheduled corrective action is completed for corrections not completed by the time of submission of the level 1 or level 2 assessment form.

- (iv) A system that has failed to comply with a coliform monitoring requirement shall report the monitoring violation in writing to the department within 10 days after the system discovers the violation, and shall notify the public pursuant to the procedures for public notification in subsection (i) of this section.

(B) Recordkeeping.

- (i) The system shall maintain the system's level 1 or level 2, or both, assessment form, regardless of who conducts the assessment, and documentation of corrective actions completed as a result of such assessments, as well as other documentation of the sanitary defects and corrective actions taken under subdivision (9) of this subsection for department review. This record shall be maintained by the system for a period not less than 5 years after completion of the assessment or corrective action.
- (ii) The system shall maintain a record of any repeat sample taken that meets the department criteria for an extension of the 24-hour period for collecting repeat samples as provided for under subdivision (8)(A)(i) of this subsection.

Statement of Purpose

Statement of Purpose: (A) The purpose of these amendments to section 19-13-B102 of the Regulations of Connecticut State Agencies is to conform with the new federal requirements in the Revised Total Coliform Rule (RTCR) and to maintain primacy for the State's implementation and enforcement of the federal Safe Drinking Water Act (SDWA). (B) Section 19-13-B102 of the Regulations of Connecticut State Agencies is amended to be consistent with and at least as stringent as the federal requirements in the RTCR. (C) Amendments were made to section 19-13-B102 of the Regulations of Connecticut State Agencies.

CERTIFICATION*This certification statement must be completed in full.***I hereby certify that the above Regulation(s)**

- 1) is/are (check all that apply) ☒ **adopted** ☒ **amended** ☐ **repealed** by this agency pursuant to the following authority(ies): (complete all that apply)

a. **Connecticut General Statutes section(s)** §§ 19a-36 and 25-32.

b. **Public Act Number(s)** _____.

(Provide public act number(s) if the authorizing act has not yet been codified in the Connecticut General Statutes.)

And I further certify

- 2) that **Notice of Intent** to adopt, amend or repeal said regulation(s) was electronically submitted to the Secretary of the State on _____, and posted to the Secretary's regulations website on _____; (Insert dates notice was (a) emailed to the Secretary of the State and (b) posted on the Secretary's website, if notice and posting were required by CGS 4-168, as amended by PA 13-247 and PA 13-274.)
- 3) and that a public hearing regarding the proposed regulation(s) was held on _____ or ☐ that no public hearing was held; (Insert date(s) of mandatory public hearing(s) held pursuant to CGS 4-168(a), as amended, or other applicable statute, and/or voluntary hearing, or if no hearing was held, check the box for that statement.)
- 4) and that notice of **Decision to Take Action** on said regulations was electronically submitted to the Secretary of the State on _____, and posted to the Secretary's regulations website on _____; (Insert dates notice was (a) emailed to the Secretary of the State and (b) posted on the Secretary's website, if notice and posting were required by CGS 4-168, as amended by PA 13-247 and PA 13-274.)
- 5) and that said regulation(s) is/are **EFFECTIVE** (check one, and complete as applicable)
- ☐ When posted online by the Secretary of the State.

OR ☐ on (insert date) _____.

6) SIGNED (Head of Board, Agency or Commission)	OFFICIAL TITLE, DULY AUTHORIZED	DATE
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APPROVED by the Attorney General as to legal sufficiency in accordance with CGS Section 4-169, as amended.

DATE	SIGNED (Attorney General or AG's designated representative)	OFFICIAL TITLE, DULY AUTHORIZED
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Proposed regulations are **DEEMED APPROVED** by the Attorney General in accordance with CGS Section 4-169, as amended, if the Attorney General fails to give notice to the agency of any legal insufficiency within thirty (30) days of the receipt of the proposed regulation.

(For Regulation Review Committee Use ONLY)

APPROVED ☐ in WHOLE or WITH ☐ technical corrections ☐ deletions ☐ substitute pages

☐ DEEMED APPROVED, pursuant CGS 4-170(c), as amended.

☐ Rejected without Prejudice ☐ Disapproved, pursuant to CGS 4-170(c), as amended.

By the Legislative Regulation Review Committee in accordance with CGS Section 4-170, as amended	DATE	SIGNED (Administrator, Legislative Regulation Review Committee)
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In accordance with CGS Section 4-172, as amended by PA 13-247 and PA 13-274, one certified paper copy and one electronic copy with agency head certification statement received on the date(s) specified below.

DATE	SIGNED (Secretary of the State)	BY
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(For Secretary of the State Use ONLY)

Date Posted to SOTS Regulations Website:

Date Electronic Copy Forwarded to the Commission on Official Legal Publications:

SOTS file stamp:

GENERAL INSTRUCTIONS

1. All regulations proposed for adoption, amendment or repeal, *except* emergency regulations, must be presented to the Attorney General for determination of legal sufficiency. (See CGS Section 4-169.)
2. After approval by the Attorney General, the original and one electronic copy (in Word format) of all regulations proposed for adoption, amendment or repeal must be presented to the Legislative Regulation Review Committee for its action. (See CGS Section 4-168, as amended by PA 13-247, section 28, and PA 13-274, and CGS Section 4-170.)
3. Each proposed regulation section must include the appropriate regulation section number and a section heading. (See CGS Section 4-172.)
4. New language added to an existing regulation must be in underlining or CAPITAL LETTERS, as determined by the Regulation Review Committee. (See CGS 4-170(b).)
5. Existing language to be deleted must be enclosed in [brackets]. (See CGS 4-170(b).)
6. A completely new regulation or a new section of an existing regulation must be preceded by the word "(NEW)" in capital letters. (See CGS Section 4-170(b).)
7. The proposed regulation must have a statement of its purpose following the final section of the regulation. (See CGS Section 4-170(b).)
8. The *Certification Statement* portion of this form must be completed, including all applicable information regarding notice submission and website posting date(s) and public hearing(s). (See more specific instructions below.)
9. Additional information regarding rules and procedures of the Legislative Regulation Review Committee can be found on the Committee's web site: <http://www.cga.ct.gov/rr/>.
10. A copy of the Legislative Commissioners' Regulations Drafting Manual is located on the LCO website at http://www.cga.ct.gov/lco/pdfs/Regulations_Drafting_Manual.pdf.

CERTIFICATION STATEMENT INSTRUCTIONS

(Numbers below correspond to the numbered sections of the Certification Statement page)

1. a) Indicate whether the regulation contains newly adopted sections, amendments to existing sections, and/or repeals of existing sections. **Check all cases that apply.**
b) Indicate the specific legal authority that permits or requires adoption, amendment or repeal of the regulation. If the relevant public act has been codified in the most current biennial edition of the *Connecticut General Statutes*, indicate the relevant statute number(s) instead of the public act number. If the public act has not yet been codified, indicate the relevant public act number.
2. An agency must electronically submit notice of its intent to adopt the regulation to the Secretary of the State at regulations.sots@ct.gov for posting on the Secretary's regulations website. Enter both the date notice of intent was submitted to the Secretary of the State *and* the date the notice was posted on the Secretary's website. For emergency regulations, use Form Regs-1-E instead of this form. For non-substantive technical amendments and repeals adopted without prior notice or hearing as permitted by subsection (g) of CGS 4-168, use Form REGS-1-T instead of this form.
3. CGS 4-168(a), as amended by PA 13-247 and PA 13-274, prescribes requirements for holding a public hearing on proposed regulations. Enter the date(s) of all hearing(s) held under that section, if any, also enter the date(s) of any hearing(s) the agency was required to hold under the provisions of any other law; and enter the date(s) of any public hearing(s) the agency elected to hold voluntarily. If no public hearing was held, mark (X) the check box.
4. **NEW REQUIREMENT:** CGS 4-168(d), as amended by PA 13-247 and PA 13-274, prescribes requirements electronically submitting notice of decision to take action (proceed with adoption) of a proposed regulation for posting to the Secretary's regulations webpage. Enter both the date notice of decision was submitted to the Secretary of the State *and* the date the notice was posted on the Secretary's website.
5. As applicable, enter the specific effective date of the regulation; or indicate that it is effective upon posting online by the Secretary of the State. **Please note the important information below.**
Permanent regulations adopted after July 1, 2013 are effective upon posting online by the Secretary of the State (SOTS), or at a *later* date specified by the agency, or at a *later* date if required by statute. See CGS 4-172(b). An effective date may not precede the date of posting online by SOTS, and it may not precede the effective date of the public act requiring or permitting the regulation.
6. Submit the original proposed regulation to your agency commissioner for signature.